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6th Edition

INDUCED
ABORTION

A World Review 1986

The
Alan Guttmacher
Institute

Induced Abortion

A World Review
1986

Christopher Tietze
Stanley K. Henshaw

6th Edition

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Preface

This is the sixth edition of the abortion fact book created by Christopher Tietze and published by The Population Council between 1973 and 1983. While other individuals contributed to the project, especially Deborah Dawson and Marjorie Cooper Murstein (coauthors, respectively, of the first two editions) and Henry David (whose earlier compilation of data was an important resource), the work was Chris's brainchild. Every two years he updated the fact book, each time adding new information and the latest statistics. Each edition was larger than its predecessor, not only in size, but in richness of detail and historical depth.

The abortion fact book was the flagship effort of Chris Tietze's deep interest in abortion, a subject to which he dedicated most of his professional career during the last decade of his life. Recognizing the limitations of current methods of contraception and the terrible toll taken on women's physical and emotional health by illegal abortion, Chris was an early and effective advocate of legal abortion in the United States and other countries. Before abortion was legalized in the United States, his research helped document the extent of clandestine abortion and of the damage it did to women's lives, especially to the lives of the most vulnerable—the poor, the very young and racial and ethnic minorities. Once abortion was legalized, he monitored the safety with which abortions were being performed and the relationship of safety to the type of procedure and the period of gestation. Just as his monitoring of IUD safety and effectiveness in earlier years led to the legitimation and widespread use around the world of this previously maligned method, so his meticulous research on abortion provided the scientific groundwork for the legalization of the procedure in country after country. The two major abortion-monitoring programs in the United States, those undertaken by the federal Centers for Disease Control and The Alan Guttmacher Institute (AGI), were inspired by Chris and developed with his active assistance.

When Chris died suddenly in April 1984, he had just begun the update for the sixth edition of the abortion fact book. No one was ready to take on the project who had his extraordinary knowledge of the field, his medical and statistical background and his extensive international contacts. However, the work had been too important in too many countries to be allowed to lapse. Therefore, the AGI agreed, with the encouragement of The Population Council, to take responsibility for completing and publishing the sixth edition and future updates.

It has required a team of specialists to accomplish what Chris Tietze did single-handedly. Of crucial importance were Evert Ketting of Stimezo Nederland and Nederlands Centrum Geestelijke Volksgezondheid, the Netherlands, and Henry David, Transnational Family Research Institute, Bethesda, Maryland. Both Ketting and David reviewed the entire manuscript and provided special assistance and insights—Ketting for Western Europe, and David for Eastern and Central Europe. Jacqueline Darroch Forrest, director of research at the AGI, updated the text of chapters 5–8, 10 and 11. Richard Lincoln, senior vice president of the AGI, reviewed the manuscript and made many helpful suggestions. Others who assisted on individual chapters are acknowledged in notes in those chapters.

The project has been made possible by grants from the Ford Foundation, the George Gund Foundation and the William and Flora Hewlett Foundation.

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Invaluable assistance was also provided by my associates at The Alan Guttmacher Institute, especially Susheela Singh, Lynne Brenner and Maura Fitzpatrick.

Introduction and Overview

The purpose of this fact book is to bring together information about induced abortion in a form useful to policy-makers, health care providers and planners, journalists and researchers. Data from all countries known to release statistics on legal abortion are included.[1] This work includes time-trend data extending, in some cases, to the 1950s and earlier.

The underlying assumption is that comparative analysis provides insight into the reasons for past patterns, probable future trends and the range of variation among countries. By comparing countries, one can observe the effects of different policies on public health and on various aspects of abortion incidence and services. Comparative data are especially useful for governments that are considering policy changes and for those that have enacted changes and need to anticipate their effects.

Objective information is particularly important when dealing with an issue like abortion, which, unlike most other areas of health care, is the subject of conflicting but deeply felt beliefs. It is hoped that this volume will promote accuracy and objectivity in future discussions of abortion.

The outline of previous editions of this fact book has been followed, except for minor reorganization of the sections. The tables have been updated to include the most recent data—usually through 1983, and in some cases, through 1984 or 1985. A new section has been added to provide information about the provision of abortions in nonhospital facilities, length of hospital stay and source of payment. Data from several countries, including Israel, Italy, the People's Republic of China and Vietnam, have been added for the first time.

Legal and Social Aspects

Since World War II, abortion laws have been liberalized in almost all industrialized countries. In the 1950s, most of the Socialist countries of Eastern and Central Europe made abortion legally available during the first trimester on request of the woman or on broadly interpreted social indications. During the late 1960s and the 1970s, most of the remaining developed countries decriminalized abortion or expanded the circumstances under which it is permitted. Induced abortion for health reasons is now legal in all the countries of Europe except Belgium, Malta and Ireland, and in most of Europe, legal first-trimester abortions are available to almost any woman who wants one.

Most of the developing countries of Asia and Africa emerged from the colonial period with laws governing abortion that had been imposed or influenced by the colonial power before their own laws had been liberalized. The colonial influence persists in the statutes of many regions. In most countries of Latin America, the restrictive legislation of the 19th century has changed little. Twenty-four percent of the world's population, and 33 percent of the population of developing countries, live in areas where abortion is not permitted for reasons of health, broadly defined.

The long-term worldwide trend toward liberalization of abortion laws, which began in northern Europe in the 1930s, has continued in recent years. Since the previous edition of this fact book appeared, in 1983, laws have undergone major liberalization in four countries with populations of one million or more—Portugal, Taiwan, Turkey and Spain—and in a number of less-populous areas. Only one country has significantly reduced access to legal abortion—Romania, in 1984—and Ireland amended its constitution to prevent future liberalization of its currently restrictive laws.

Although laws have been liberalized in almost all industrialized countries, many restrictions remain. These include gestational limits, mandatory counseling and waiting periods, and certification that specific indications for abortions exist. Motivations for liberalizing abortion laws include: reducing the mortality and morbidity associated with illegal abortion; giving poor women access to abortion services previously available only to middle- and upper-class women; and securing the right of all women to decide on pregnancy and motherhood. Control of population growth has rarely been cited by any government as the reason for the adop-

[1] Certain small areas with legal abortion data—for example, the Faeroe Islands and Guadeloupe—are not included.

tion of nonrestrictive abortion policies.

Most of the few instances of imposition of more restrictive policies in recent years have been motivated primarily by the desire to increase fertility. This was the case most dramatically in Romania in 1966 and again in 1984. Some tightening of abortion laws in response to concerns about low birthrates also occurred between 1961 and 1974 in Bulgaria, Czechoslovakia and Hungary. On the other hand, in many Western countries, such as France and the German Federal Republic, liberalization of abortion laws has taken place in spite of widespread concern about low fertility. When restrictions are imposed, a decline in the number of legal abortions may be largely offset by an increase in illegal abortions. The Romanian policy change in 1966 resulted in a fivefold increase in deaths attributed to abortion, which suggests that the number of illegal abortions increased markedly. When abortion laws are liberalized, many of the legal abortions replace illegal abortions.

The formal legal status of abortion is an imperfect indicator of the actual availability of medically safe abortion services, which are tolerated without prosecution in a number of countries where abortion is illegal under most circumstances. In Belgium, for example, there are several nonprofit clinics where abortions are performed openly. In some countries where abortion is illegal, "menstrual regulation" as late as eight or 10 weeks after the last menstrual period is permitted. On the other hand, in some countries where abortion is permissible under many circumstances, legal abortion services are practically unavailable. Abortion laws are also subject to varying interpretation, as in Switzerland, where services are readily available in some cantons but do not exist in others.

In most countries, legal abortion rates rose for several years after liberalization, but recently have stabilized or have begun to decline slightly. There is wide variation in the abortion rates even of countries in which abortion is legal and generally available. Levels are high in some Eastern and Central European countries where modern contraceptives are in limited supply. Even in Western countries, however, where contraceptives are universally available, abortion rates can vary by a factor of five between the highest and the lowest.

In developed countries, the abortion rate tends to be high where use of effective contraceptive methods is low. Increases in abortion incidence have been observed following publicity about adverse health consequences of pill use. In developing countries, on the other hand, increases in contraceptive use may be accompanied by increases in the prevalence of abortion, as more and more women seek to control their fertility and use both abortion and contraception to do so.

Just as the legal abortion rate rises after liberalization, so does the proportion of abortions that are repeat procedures. Repeat unintended pregnancies and abortions occur even if contraceptive practice improves after abortion, since all contraceptive methods are subject to failure. In addition, women who have had an unintended pregnancy are often those who have difficulty in using contraceptives effectively. As the number of women who have had a first abortion increases, the proportion of abortions that are repeat procedures also increases. Theoretically, it could take as long as 30 years after the abortion rate stabilizes for the proportion of repeat abortions to stabilize. The phenomenon of rising proportions of repeat abortions can be observed in all of the Western European countries. Stabilization has occurred in Hungary because abortion has been legal there long enough for equilibrium to have been reached.

The availability of abortion services is affected by restrictions and practices regarding the settings in which abortion procedures may by performed. Some countries permit abortions only in hospitals; some allow the procedure to be performed in hospitals and other approved facilities, usually including clinics equipped much like hospitals; some permit abortions in a variety of settings, including physicians' offices and outpatient clinics. Although concern about safety has been given as a reason for limiting abortions to hospitals, studies have found abortions in nonhospital clinics to be as safe as those in hospitals. Where abortions are permitted in nonhospital settings, increasing proportions are being performed in such facilities.

In most developed countries, restrictions on the types of facilities where abortions may be performed and the other remaining legal limitations appear to have little impact on overall abortion rates, although individual women may be seriously affected. Where restrictions are especially stringent, many women travel to other countries for abortion services. Travel from France, the German Federal Republic and Italy to England and the Netherlands has been falling because of an expansion of local services, while travel from Spain and Ireland to England has increased in recent years. When abortions obtained by Irish women in England are considered, the abortion rate among residents of Ireland, which has one of the most restrictive laws in Europe, is as high as that of the Netherlands, which has perhaps the most liberal law.

In most countries, abortion services are financed by the same mechanisms, usually public or semipublic, as are other types of medical care; most or all abortions are therefore provided without charge to the patient. In several countries, small copayments are required, and in a very few, only abortions required for specific medical indications are publicly financed. The United States is the only country in which abortion coverage is virtually excluded on the national level from the publicly financed health insurance program (Medicaid).

Demographic Characteristics

In Western industrialized countries, abortion patients tend to be young and unmarried. Many have had no children and seek abortion to postpone childbearing. Abortion rates among women over age 35 are low and declining in several Western countries because of the widespread use of surgical sterilization among women in these age-groups. In Eastern and Central Europe, however, where modern contraceptive methods are in short supply, many abortions are obtained by older women in order to space and terminate childbearing.

In many countries, sterilization is performed at the time of abortion for women seeking to terminate childbearing. The proportion of abortions that are accompanied by sterilization ranges from one percent in the United States to 29 percent in India. The proportion has been falling in all countries for which data are available (except India), in part because of changing characteristics of women obtaining abortions and because increasing proportions of abortions are performed as outpatient procedures. Complication rates associated with the combined procedure are low, but there is no consensus on whether the rates are as low as the additive rates of the two procedures performed separately.

Teenagers account for substantial proportions of abortion patients in Western countries. They obtain 20 percent of abortions in all of the English-speaking areas for which data are available and over 15 percent in several other Western industrialized countries. In some countries, the peak age-specific abortion rate is found among 18–19-year-old women. The rate for teenagers, like that for older women, has been relatively stable in recent years in most countries and is falling in some, especially in Scandinavia.

In countries where abortion is legal under most circumstances, the number of abortions ranges from one-tenth the number of live births (the Netherlands) to two times that number (the Soviet Union). The ratio of abortions to births is highest among women for whom childbirth would pose health risks or child care would be difficult: very young women and those aged 40 or more, unmarried women and women with three or more children. Except in the Socialist countries of Europe, the proportion of all pregnancies that are terminated by abortion is higher among women under age 15 than among any other subgroup. In Norway and Sweden, only 10 percent of women who experience a pregnancy before age 15 carry the pregnancy to term. In English-speaking countries, the proportion ranges from 36 to 57 percent, and in the

Socialist countries, from 63 to 71 percent. In Czechoslovakia, Hungary and the United States, unmarried women are more likely than women under age 15 to terminate a pregnancy by abortion.

Within countries, abortion rates often vary markedly among different racial and ethnic groups, generally reflecting differences in rates of unintended pregnancy. The relationship between abortion and socioeconomic status is largely unknown, because the necessary data are rarely collected.

Medical Aspects

The method of pregnancy termination most commonly used in Western countries is suction curettage (vacuum aspiration), which has largely replaced surgical curettage (dilatation and curettage, or D&C) in many countries. Medical induction, usually by instillation of saline or prostaglandin solutions into the uterus, is used chiefly for late gestations. Abdominal surgery—hysterectomy and hysterotomy—has almost disappeared, except in India. The technology of suction curettage has changed little since the last edition of this book, except for the development of new types of osmotic dilators, which are used to dilate the cervix in second-trimester curettage procedures.

Legal abortion has proved to be a very safe procedure, involving mortality rates much lower than those associated with childbearing. Abortion-related mortality has fallen steadily in areas where the laws were liberalized, and rates are now one death per 100,000 legal abortions or lower in many countries. Short-term complication rates are also low, but are difficult to compare between countries because of definitional differences.

The most important factors affecting complication rates are the presence of preexisting medical conditions, the length of gestation and the skill and experience of the operator. The safest gestation at which to have an abortion is around eight weeks; the complication rate increases with each additional week of pregnancy. In some countries, part of the improved safety record of recent years may be attributed to earlier, and thus safer, abortions. In some, the system through which abortion services are provided itself causes delay.

In countries where abortion is illegal, the safety of the procedure depends in large part on the extent to which abortion is tolerated and is therefore provided by medically trained personnel using modern equipment. In countries where medical abortions are unavailable, mortality from illegal abortions makes up a large fraction of all maternal mortality, and as many as half of all admissions to the obstetric units of hospitals are for abortion complications. In some areas, such admissions are declining, possibly because of increasing tolerance of abortions provided by physicians and improved skill of nonmedical operators.

The possible long-term effects of induced abortion on a woman's subsequent reproductive capacities have been studied extensively. When the studies that have had adequate designs are considered as a group, no adverse effects of a first-trimester suction abortion on the probability of future midtrimester spontaneous abortion, preterm delivery, low birth weight, ectopic pregnancy or infertility are apparent. Small effects, however, cannot be ruled out. The long-term effects of second-trimester abortions are less clear, because they have been studied less thoroughly. A few studies have found D&C and multiple abortions to have adverse long-term effects on reproductive capacity, but the evidence is not conclusive.

In summary, the large majority of the world's people—in developing as well as developed countries—live in areas where abortion is legal at least for health reasons, and the recent trend has been toward further liberalization of laws. Where abortion services are not legal, they are frequently available from physicians to women who can afford to pay for them. Abortions provided by medically trained personnel have proved to be much safer than childbirth. However, mortality and morbidity related to nonmedical abortions are still major public health problems in areas where medical abortions are unavailable.

Definitions, Data Sources And Statistical Methods

1

Definitions

As used by the medical profession, the term "abortion" denotes the termination of a pregnancy after the implantation of the blastocyst in the endometrium and before the fetus has attained viability (that is, before it has become capable of surviving, with appropriate life support, and eventually maintaining an independent extrauterine life). According to medical tradition, viability is attained after 28 weeks of gestation, counting from the first day of the last normal menstrual period, at which point the fetus weighs approximately 1,000 g. This definition of viability was based on the observation that infants below this weight had little chance of survival, whereas the mortality of infants weighing over 1,000 g declined rapidly with increasing weight.

Advances in the care of premature infants during recent years have led to a reevaluation of viability. A few infants born at fewer than 24 weeks of gestation have been reported to have survived, as have a few others weighing less than 600 g at birth. However, no well-documented case of survival of any infant born at less than 24 weeks of gestation and weighing less than 600 g was found by the U.S. National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (Behrman and Rosen, 1976). Exceptions have been reported in the news media since then, but the period of gestation may not have been reliably established in those cases. Hence, both the duration of pregnancy and the weight of the fetus, as estimated by sonography, must be considered if viability is to be presumed. The fetus's physical condition must also be taken into account: an anencephalic fetus is never viable (Chervenak et al., 1984).

The two major categories of abortions are "induced" and "spontaneous." Induced abortions are those initiated voluntarily with the intention to terminate a pregnancy; all other abortions are called spontaneous, even if an external cause is involved, such as an injury or high fever. In this book, unless otherwise noted, the term "abortion" refers to induced abortion, including legal and illegal abortion as defined by the laws of each country. The terms "miscarriage," "therapeutic abortion" and "criminal abortion," sometimes used in lieu of spontaneous abortion, legal abortion and illegal abortion, respectively, have been avoided. The term "conception" has been used as a matter of semantic convenience, in lieu of either one of the more precise terms "fertilization" and "implantation," which describe events occurring about one week apart.

As used in this book, the term "induced abortion" refers to measures taken when pregnancy is known or at least suspected to exist. Fertility-regulating methods acting on the fertilized ovum prior to implantation are considered to be contraceptives and, hence, are outside the scope of this report.

Where abortions are illegal, they are frequently performed by unqualified persons under unsanitary conditions; as a result, in such areas, risks of injury and infection are higher than those in countries where abortion is legal. These higher risks also apply to self-induced abortions, regardless of their legal status. Distinguishing between spontaneous abortion on the one hand and illegal or self-induced abortion on the other is often impossible, because the latter can be identified only when there is evidence of manipulation (such as injury to the cervix or perforation of the uterus), a foreign body present, or information from the woman, members of her family or the individual who performed the abortion. Most septic abortions are thought to be induced, but many women who have had illegal induced abortions show no signs or symptoms of infection, whereas some who have had spontaneous abortions do.

Such diagnostic categories as "inevitable," "imminent," "incomplete" and "complete" abortion describe stages in the process of abortion, whether spontaneous or induced, and are significant only in relation to a specific point in time. After an illegal abortion has been initiated (e.g., by the insertion of a catheter into the uterus), a woman may seek medical care at any stage, although a knowledgeable woman will wait until she feels sure that the process is irreversible. Incomplete abortion is the most common diagnosis when women are admitted to hospitals for aftercare, usually for post-abortion bleeding caused by retention of placental tissue.

Sources of Data

Most of the material in this book is based on official statistics on legal abortions from countries where liberalized abortion laws have been enacted at various times since the late 1930s. Most of these laws require that all abortions performed under the provisions of the statute be reported to health authorities, and in most of the countries, nationwide statistics are published periodically. Since 1971, the United Nations Statistical Office has compiled and published a number of these statistics in the *Demographic Yearbook* (United Nations, 1985a).

To simplify the compilation of statistics for this book, questionnaires requesting abortion, birth and population data were sent to the statistical or health agencies of most of the countries with abortion statistics. The data from the questionnaires were used in the tables in this volume, but for the reader's convenience, published sources for the abortion data are cited where possible. The population estimates and numbers of births used for the abortion rates and ratios came from the questionnaires or from government agencies. In a few cases, birth and population estimates were taken from UN publications (United Nations, 1985a and 1985b) or other sources.

Where there is no national abortion reporting requirement, abortion data may be available from other sources. In the Netherlands, statistics are compiled by an association of abortion providers (Ketting and Leseman, 1986). In the United States, information on the number of abortions is available from The Alan Guttmacher Institute (AGI), which has conducted nationwide surveys of abortion service providers since 1973 (Henshaw and Blaine, 1985). The central health agencies of 46 of the 50 states also collect abortion statistics of varying completeness and detail. Information about the characteristics of women obtaining abortions has been compiled since 1970 by the U.S. Centers for Disease Control (CDC) from tabulations supplied by state health agencies (United States, 1985a). Individual records of abortions in 12 states are collected and tabulated by the National Center for Health Statistics (United States, 1985b).

The completeness and accuracy of abortion reporting and the quantity and quality of the tabulations vary widely among and within countries. Reporting is probably most complete where a formal authorization procedure for each abortion is prescribed by statute and all legal abortions must be performed in hospitals or other facilities subject to official licensure; it is probably least complete for abortions performed in the offices of medical practitioners in private practice. In addition to underreporting, there may be faulty reporting of such personal characteristics of the woman as residence, age and weeks of gestation, especially if legal or financial considerations are involved. Marital status may be misstated and prior induced abortions denied by the woman to avoid embarrassment.

Reported numbers of legal abortions may include two categories of cases that are not covered by the definition of abortion given in the preceding section. Some abortion procedures may be performed on the basis of an erroneous diagnosis of pregnancy, the error being discovered during or after the procedure. In a large series of abortions performed in the United States during 1970/71,[1] about 0.3 percent of all women undergoing first-trimester procedures proved to be not pregnant (Tietze and Lewit, 1972). The probability that a woman seeking an abortion is not pregnant increases to about one percent when the uterus is evacuated during the first two weeks following the expected onset of a missed menstrual period when pregnancy is suspected, but not definitely established. The proportion of women seeking abortions who find they are not pregnant is inversely related to the duration of amenorrhea (Fortney et al., 1977).

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[1] Throughout the text and tables, a slash between years (/) indicates that the period covered is from some point in the first year to the same point in the second year; a dash between years (–) indicates that the period covered is in full calendar years.

The other category not covered by the definition includes a few pregnancies terminated on the assumption that the fetus is not yet viable, but in which the fetus subsequently is found to weigh more than 600 g or even 1,000 g. Although most of these fetuses die during the abortion procedure and virtually all of the few infants born alive die within a few hours or days, these cases not only are psychologically stressful for all concerned, but may present major ethical and legal problems. To avoid these problems, some clinicians do not perform, and some hospitals do not permit, abortions beyond 22 or even 20 weeks of gestation.

Reliable statistical data on illegal abortions do not exist. Although information on contraceptive practice has been successfully obtained in many countries by interviewing samples of women and, occasionally, of men drawn from the general or married population, efforts to estimate the incidence of illegal abortion by such surveys have been far less successful. It is quite apparent that many respondents are willing to reveal their contraceptive practice to an interviewer but not to report experience with illegal or even legal abortion. The classic example is the Fertility and Family Planning Study of 1966, conducted in Hungary a decade after the legalization of abortion (Hungary, 1969). In that survey, the numbers of abortions reported by the respondents for the years 1960–65 corresponded to only 50–60 percent of the number actually performed. A comparable level of underreporting was also noted in 1977 (Hungary, 1979, p. 31). Two surveys in the United States suggest that 52 percent and 73 percent, respectively, of women aged 18–44 report their experience with legal abortion (Henshaw and Martire, 1982). Still another example is a survey of providers of abortion services in Seoul, Korea (Hong and Tietze, 1979), that generated an abortion rate three times higher than the rate estimated a few years earlier on the basis of interviews with married women (Hong and Watson, 1976).

Many investigators have tried to estimate the incidence of illegal abortion on the basis of interviews conducted in various medical settings with obstetric patients, with gynecologic patients or with women attending birth control clinics. Although rapport may be better, as a rule, in these medical situations than in door-to-door interviewing, the results may be severely distorted by a number of selective factors (Tietze, 1953). Hence, few data of this type are included in this book. Nor have any estimates of the incidence of illegal abortion been accepted that were derived by subtracting a fixed percentage of births, representing estimated spontaneous abortions, from the total number of abortions ascertained in a survey.

Another approach to the methodology of abortion research only partially explored is the randomized response technique (RRT), which permits respondents to give information on highly sensitive subjects without revealing the facts to the interviewer (Warner, 1965). In its original form, the RRT involves the use of a box containing a number of small beads of two colors—e.g., red and blue. The box has a large window, allowing a view of its contents, and a smaller window, through which only a single bead can be seen. Two questions are provided: one sensitive and the other nonsensitive. For example, a red bead visible through the small window may mean "Have you had an abortion during the past 12 months?" whereas a blue bead means "Were you born in the month of March?" The respondent is asked to shake the box and to answer the question indicated by the color of the bead visible in the window either "yes" or "no." The interviewer records the answer, but does not know which question is being answered.

Numerous modifications of the RRT have been developed to adapt the method to a variety of situations, including the interviewing of illiterate respondents. The usefulness of such modifications under field conditions is still being investigated (Chow, 1981). One major shortcoming of the RRT is that it requires much larger samples than does direct questioning.

Estimates of abortion experience obtained by the RRT have been compared with responses elicited by direct questioning in Taiwan (Chi et al., 1972), Canada (Krótki and McDaniel, 1977), Ethiopia (Chow et al., 1979), and Turkey (Tezcan and Omran, 1981). In each of these studies, the estimate by RRT of the percentage of women who had experienced at least one abortion during their lives was substantially higher than the percentage of women who reported the experience under direct questioning.

However, when the RRT was administered to a small group of Taiwanese women known to have had abortions, the estimated proportion with abortion experience was only 40 percent, suggesting a considerable amount of prevarication even with the RRT (Rider et al., 1976). Conversely, an attempt to use the RRT in the 1973 National Survey of Family Growth in the United States generated an estimate for the 12 months preceding the interview that was more than three times the number of legal abortions obtained by married women, as derived from the AGI's abortion provider survey and the distribution by marital status reported by the CDC (Shimizu and Bonham, 1978). Thus, it is clear that, as a methodology for estimating the incidence of abortion, the RRT is still an imperfect instrument.

Statistical Analysis

Two distinct approaches to assessing the incidence of abortion involve relating the number of abortions to the number of women at risk of having them and to the number of births or pregnancies in a population. The types of information obtained by these two approaches are different but complementary. This book follows the convention that measures relating abortions to women (or to a total population) are referred to as rates, whereas measures relating abortions to births or pregnancies are called ratios. Since this convention is not universally accepted, the relevant denominator is identified whenever necessary.

Specifically, the following abortion rates and ratios appear in this book:

- Crude abortion rates per 1,000 total population, analogous to crude birthrates (Table 2).
- General abortion rates per 1,000 women of reproductive age, defined as 15–44 years, analogous to general fertility rates (Table 2).
- Age-specific abortion rates per 1,000 women in five-year age-groups, analogous to age-specific fertility rates (Table 5). Age-specific abortion rates for women under 20 are computed per 1,000 women aged 15–19, and those for women 40 and over, per 1,000 women aged 40–44. In a few countries, age-specific abortion rates have also been computed separately for younger and older teenagers—that is, 14 or younger, 15–17 and 18–19 years (Table 7).
- Total abortion rates (TARs) per 1,000 women, analogous to total fertility rates (Table 5). These rates are computed by adding the age-specific abortion rates for five-year age-groups and multiplying the sum by five. When age-specific rates are not available, the TAR can be approximated by multiplying the abortion rate per 1,000 women aged 15–44 by 30. It cannot be emphasized too strongly that all TARs shown in this book are period measures, not cohort measures.[2]
- Abortion ratios per 100 live births (Table 2). The number of births in the denominator for the computation of these and all other abortion ratios in this book is the number occurring during a 12-month period starting six months later than the period during which the abortions were performed, unless noted otherwise. The purpose of this shift of six months is to have abortions and births represent approximately the same cohort of conceptions, which is important during periods of rapid change in the birthrate.
- Abortion ratios per 100 known pregnancies, that is, live births plus legal abortions (Table 2). (It should be noted that the term "known pregnancies" as used here excludes pregnancies ending in stillbirth, spontaneous abortion or illegal abortion.)

An abortion ratio per 100 live births (R) can be converted into a ratio per 100 known pregnancies (R') by the following formula:
$R' = 100 \times R/(100+R)$. Conversely, R' is converted into R by the following formula:
$R = 100 \times R'/(100-R')$.

---

[2] A cohort measure would reflect the experience of women in a particular cohort as they passed through their reproductive years. The TAR is calculated from the abortion rates of different cohorts during a particular period (year).

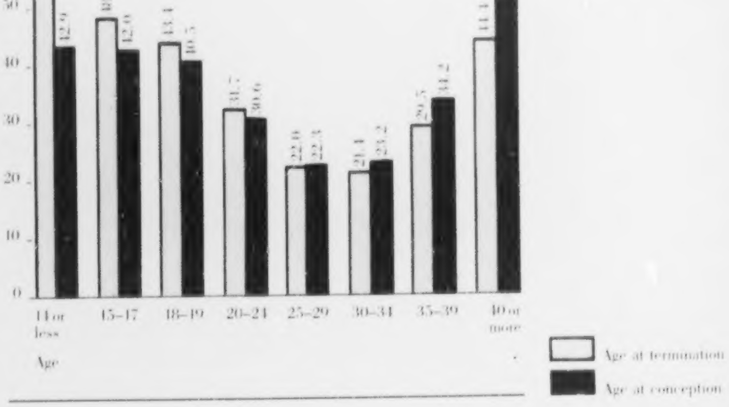
R	*R'*
10	9.1
20	16.7
50	33.3
100	50.0
200	66.7
400	80.0

The principal advantage of computing the abortion ratio per 100 live births is that the denominator usually is known or can be estimated within narrow limits. The major shortcoming is the occasional occurrence of extremely high values for certain subpopulations, such as very young and older women. Abortion ratios per 100 known pregnancies reflect the proportions choosing each intended outcome of pregnancy, whether it is a live birth or induced abortion. They can never exceed 100 and are therefore easily understood. They can be seriously distorted by the omission of illegal abortions from the denominator.

- Age-specific abortion ratios per 100 known pregnancies (Table 6). In the computation of these ratios, abortions were "de-aged" by three months, and births (six months later), by nine months; this procedure yields approximate distributions by age at conception. Age-specific abortion ratios for younger and older teenagers are shown in Table 7. The effect of de-aging is illustrated in Figure 1, using the United States as an example.
- Abortion ratios per 100 known pregnancies by parity (Table 9) and by marital status (Table 11). The abortion ratios are calculated from "lagged" births and de-aged births and abortions, so that abortions and births will correspond in terms of the calendar periods during which the conceptions occurred and the ages of the women at conception. The de-aging makes a substantial difference in the abortion ratios by age, especially for very young women. For example, in the United States in 1982, among pregnancies experienced by women aged 14 and under, 63 percent of those leading to births, as contrasted with 26 percent of those terminated by abortions, ended after age 14. As may be seen in Figure 1, the abortion ratio per 100 known pregnancies according to the age at termination of the pregnancy was 59.8, whereas the ratio by age at conception (using de-aged births and abortions) was 42.9. For age-groups past 20–24 years, the adjustment to age at conception increased the abortion ratio. A detailed description of the formula and computer program for de-aging may be found in the appendix of the fifth edition of this book (Tietze, 1983).

In interpreting rates and ratios, it should be remembered that both numerators and denominators may be subject to non-negligible errors. Among women obtaining abortions, those whose age or other characteristics were unknown were distributed pro rata. The numbers of women, used as denominators for the computation of rates, and of births, used for the computation of ratios, are themselves estimates of variable accuracy. In order to signal the approximate nature of the data, all absolute numbers of abortions have been rounded, usually to the nearest hundred. Percentages, most abortion rates (except TARs) and most abortion ratios are shown to one decimal place, and a few very low rates and ratios are carried to two decimal

Figure 1. Legal abortion ratios per 100 known pregnancies, by age of woman at termination and at conception: United States, 1982



places. TARs are shown to the unit digit. In most cases, however, digits beyond the first two may be safely ignored, because they do not convey valid information.

It is important to make a sharp distinction between abortion rates and abortion ratios. For example, consider two countries, each with a population of one million women of reproductive age. Assume that in one, there are 200,000 live births and 50,000 abortions, and in the other, there are 75,000 live births and 25,000 abortions. The abortion rates are 50 and 25, respectively, per 1,000 women; the abortion ratios, 20 and 25, respectively, per 100 known pregnancies. Hence, one of these two countries has the higher abortion rate and the other has the higher abortion ratio. The abortion ratio corresponding to a given abortion rate is higher when the birthrate is low than when the birthrate is high.

The age patterns of abortion rates and ratios differ sharply. Abortion rates are usually lowest for women under age 15 and over age 40, while abortion ratios are highest at these ages because the desire for childbirth is low.

No attempt has been made in this book to present statistics designed to answer an often-asked question: What proportion of all women have experienced or will experience an induced abortion during their lifetime? This proportion, called the total first abortion rate (TFAR), represents the prevalence of abortion. No country has data permitting the computation of a cohort TAR, let alone a TFAR. Even if such data were available, they would be of limited interest, because they would describe the experience of a cohort of women who had most of their pregnancies and abortions some time in the past. A computation of a TFAR on the basis of current period data, which is possible for several countries, could produce very misleading results, because the rapid changes in the incidence of legal abortion in recent years may have resulted in age patterns quite different from the patterns ultimately experienced by the cohorts of women now in the early portion of their reproductive period.

Abortion Laws and Policies

2

Jan Stepan of the Swiss Institute of Comparative Law, Lausanne, provided extensive assistance in updating this chapter. Invaluable information and advice were also provided by Rebecca Cook, School of Public Health, Columbia University, New York.

Among the countries of the world, laws governing induced abortion range from those prohibiting abortion completely to those establishing it as the right of a pregnant woman (United Nations, 1979). Table 1 and Map 1 present the most recent available information for areas with populations of one million or more. The situation as of early 1986 can be summarized as follows. About 24 percent of the world's 4.9 billion people (33 percent of those in developing countries) live in countries where abortion is permitted only to save the life of the pregnant woman or, possibly in a few cases, is prohibited altogether. Most of the Muslim countries of Asia, almost two-thirds of the countries of Latin America, half of the countries of Africa, and three countries in Europe (Belgium, the Republic of Ireland and Malta) fall into this category. Some of these countries have prohibitions against abortion without explicit exception, but in most, if not all, cases, implicit provisions of statutes or general principles of criminal law—for instance, the defense of necessity—permit abortion to save the life of a pregnant woman.

About 13 percent of the world's population live under statutes authorizing abortion on broader medical grounds—that is, to avert a threat to the woman's health, rather than to her life—and sometimes on eugenic, or fetal, indication (known genetic or other impairment of the fetus or increased risk of such impairment) or juridical indication (such as rape or incest).

Twenty-four percent reside in countries where social factors, such as inadequate income, substandard housing and being unmarried, can be taken into consideration in the evaluation of the threat to the woman's health (social-medical indication) or where adverse social conditions alone, without reference to health, can justify termination of pregnancy. Major countries in this group are the German Federal Republic, India, Japan, most of the Socialist states of Eastern and Central Europe and the United Kingdom. In most of these countries, early abortions are permitted virtually on request.

Countries whose statutes allow abortion on request account for 39 percent of the world's population. In these countries, abortions generally are limited to the first trimester of pregnancy, but abortions on medical grounds are usually permitted beyond the gestational limit prescribed for abortions on social grounds or for elective procedures. This category includes a very heterogeneous list of countries: Austria, the People's Republic of China, Cuba, Denmark, France, the German Democratic Republic, Italy, the Netherlands, Norway, Singapore, Sweden, Tunisia, Turkey, the United States, the Soviet Union, Vietnam and Yugoslavia. In some of these countries (e.g., Denmark, France, the German Democratic Republic, India, Italy, Norway) the law regulating abortion requires parental consent if the pregnant woman is a minor, generally defined as under 18 years of age. Elsewhere, directives governing medical or hospital practice may have the same effect. A few countries (e.g., France, the German Federal Republic, Italy, the Netherlands) require a waiting period of up to one week between application and performance of the procedure. Many countries have "conscience clauses" exempting physicians, nurses or other staff from participating in abortion procedures if they have religious or philosophical objections.

Several of the categories enumerated above cover a wide range of situations. A statute authorizing abortion to avert a threat to the pregnant woman's health may define this threat narrowly or broadly, for example, by specifically mentioning mental health. Social indications also may be defined or interpreted narrowly, as in Uruguay, or broadly, as in Japan and Poland.

The abortion statutes of many countries are not strictly enforced, and occasional abortions on medical grounds are probably tolerated in most countries with restrictive laws. It is well known that in some such jurisdictions, abortions can be obtained openly from private physicians, without the interference of authorities, as in the Republic of Korea and, before 1985, Taiwan, or in nonprofit clinics, as in the Netherlands prior to legalization in 1984. Conversely, a liberal

Continued on page 14.

Table 1. Grounds on which abortion is legal, by area: Early 1986

Area	Medical[1]			Juridical[3] (rape, incest, etc.)	Social and social-medical	On request
	Narrow[2] (life)	Broad (health)	Eugenic[1] (fetal)			
North America						
Canada	—	X	—	—	—	—
Costa Rica	—	X	—	—	—	—
Cuba	—	—	—	—	—	X[4]
Dominican Republic	X	—	—	—	—	—
El Salvador	X	—	X	X	—	—
Guatemala	X	—	—	—	—	—
Haiti	X	—	—	—	—	—
Honduras	—	X	—	—	—	—
Jamaica	—	X	—	—	—	—
Mexico	X	—	—	X	—	—
Nicaragua	X	—	—	—	—	—
Panama	X	—	—	—	—	—
Puerto Rico	—	—	—	—	—	X[5]
Trinidad & Tobago	—	X	—	—	—	—
United States	—	—	—	—	—	X[5]
South America						
Argentina	—	X	—	X	—	—
Bolivia	—	X	—	X	—	—
Brazil	X	—	—	X	—	—
Chile	X	—	—	—	—	—
Colombia	X	—	—	—	—	—
Ecuador	X	—	—	X	—	—
Guyana	—	X	—	—	—	—
Paraguay	X	—	—	—	—	—
Peru	—	X	—	—	—	—
Uruguay	X	—	—	X	X[6]	—
Venezuela	X	—	—	—	—	—
Europe						
Albania	—	X	—	—	—	—
Austria	—	—	—	—	—	X[7,8]
Belgium	X	—	—	—	—	—
Bulgaria[9]	—	X	X	X	X[4]	—
Czechoslovakia	—	X	X	X	X[7]	—
Denmark	—	—	—	—	—	X[7]
Finland[10]	—	X	X	X	X[7]	—
France	—	—	—	—	—	X[4]
German Democratic Republic	—	—	—	—	—	X[7]
German Federal Republic	—	X	X	X	X[7,8]	—
Greece	—	X	X	—	—	—
Hungary[11]	—	X	X	X	X[7]	—
Iceland	—	X	X	X	X[7]	—
Ireland, Northern	—	X	—	—	—	—
Ireland, Republic of	X	—	—	—	—	—
Italy	—	—	—	—	—	X[7]
Luxembourg	—	X	X	X	X[7]	—
Malta	X	—	—	—	—	—
Netherlands	—	—	—	—	—	X[5]
Norway	—	—	—	—	—	X[7]
Poland[12]	—	X	—	X	X[7]	—
Portugal	—	X	X	X	—	—
Romania	—	X	X	X	X[7,13]	—
Spain	—	X	X	X	—	—
Sweden	—	—	—	—	—	X[14]
Switzerland	—	X	—	—	—	—
United Kingdom[15]	—	X	X	—	X[5]	—

Note: Table does not include most areas with fewer than one million inhabitants or those for which information on the legal status of abortion was not located (Angola, Kampuchea). Countries listed in sources as applying Islamic law appear under "Medical/narrow (life)."

grounds is generally permitted prior to viability of the fetus.

2. Although some countries in this category have prohibitions against abortion without explicit exception, in most, if not all, cases, implicit provisions of statutes or general principles of criminal law—for instance, the defense of necessity—permit abortion to save the life of a pregnant woman.
3. Abortion on juridical grounds is generally permitted up to the same gestational period as abortion on social or social-medical grounds.
4. During the first 10 weeks.
5. Prior to viability of fetus.
6. Penalty may be waived when abortion is performed during the first three months of pregnancy because of serious economic difficulty.
7. During the first three months or 12 weeks.
8. Gestational limit specified is for interval since implantation.
9. On request for unmarried women, married women with two living children and married women over age 40 with one living child.

0. On request for women over age 40.

1. On request for unmarried women, married women who have three living children or who have experienced three deliveries, certain categories of women with two living children, married women over age 40 and women without a home or apartment of their own.

2. No formal authorization required, and abortion permitted in doctor's office; abortion de facto available on request.

3. On request for women over age 40 and those with four or more living children.

4. During the first 18 weeks.

5. The Abortion Act of 1967 does not apply to Northern Ireland.

Area	Medical[1]			Juridical[3] (rape, incest, etc.)	Social and social-medical	On request
	Narrow[2] (life)	Broad (health)	Eugenic[1] (fetal)			
USSR	—	—	—	—	—	X[7]
Yugoslavia	—	—	—	—	—	X[4]
Asia						
Afghanistan	X	—	—	—	—	—
Bangladesh	X	—	—	—	—	—
Burma	X	—	—	—	—	—
China, People's Republic of	—	—	—	—	—	X[16]
Hong Kong	—	X	X	X	—	—
India	—	X	X	X	X[17]	—
Indonesia	X	—	—	—	—	—
Iran	X	—	—	—	—	—
Iraq	X	—	—	—	—	—
Israel	—	X	X	X	—	—
Japan[12]	—	X	X	X	X[18]	—
Jordan	—	X	—	X	—	—
Korea, Democratic Republic of[19]	—	X	X	X	X	—
Korea, Republic of	—	X	X	X	—	—
Kuwait	—	X	X	—	—	—
Laos	X	—	—	—	—	—
Lebanon	X	—	—	—	—	—
Malaysia	—	X	X	X	—	—
Mongolia	—	X	—	—	—	—
Nepal	—	X	—	—	—	—
Pakistan	X	—	—	—	—	—
Philippines	X	—	—	—	—	—
Saudi Arabia	X	—	—	—	—	—
Singapore	—	—	—	—	—	X[18]
Sri Lanka	X	—	—	—	—	—
Syria	X	—	—	—	—	—
Taiwan	—	X	X	X	X[5]	—
Thailand	—	X	—	X	—	—
Turkey	—	—	—	—	—	X[4]
Vietnam	—	—	—	—	—	X[20]
Yemen Arab Republic	X	—	—	—	—	—
Yemen, Peoples' Democratic Republic of	X	—	—	—	—	—
Africa						
Algeria	—	X	—	—	—	—
Benin	X	—	—	—	—	—
Botswana	X	—	—	—	—	—
Burkina Faso	X	—	—	—	—	—
Burundi	—	X	—	—	X	—
Cameroon	—	X	—	X	—	—
Central African Republic	X	—	—	—	—	—
Chad	X	—	—	—	—	—
Congo	—	X	—	—	—	—
Egypt	—	X	X	—	—	—
Ethiopia	—	X	—	—	—	—
Gabon	X	—	—	—	—	—
Ghana	—	X	X	X	—	
Guinea	—	X	—	—	—	—
Ivory Coast	X	—	—	—	—	—
Kenya	—	X	—	—	—	—
Lesotho	—	X	—	—	—	—
Liberia	—	X	X	X	—	—
Libya	X	—	—	—	—	—
Madagascar	X	—	—	—	—	—

16. No legal limit, but most abortions are performed during the first trimester.
17. During the first 20 weeks.
18. During the first 24 weeks.
19. For "important reasons."
20. Gestational limit not ascertained.
21. In Northern Territory and South Australia.
22. In South Australia, by legislation; in New South Wales and Victoria, by judicial decision.

Table 1 (continued)

Area	Medical[1]			Juridical[3] (rape, incest, etc.)	Social and social-medical	On request
	Narrow[2] (life)	Broad (health)	Eugenic[1] (fetal)			
Malawi	\	—	—	—	—	—
Mali	\	—	—	—	—	—
Mauritania	\	—	—	—	—	—
Mauritius	\	—	—	—	—	—
Morocco	—	\	—	—	—	—
Mozambique	\	—	—	—	—	—
Namibia	—	\	\	\	—	—
Niger	\	—	—	—	—	—
Nigeria	\	—	—	—	—	—
Rwanda	—	\	—	—	—	—
Senegal	\	—	—	—	—	—
Sierra Leone	—	\	—	—	—	—
Somalia	\	—	—	—	—	—
South Africa	—	\	\	\	—	—
Sudan	\	—	—	—	—	—
Tanzania	—	\	—	—	—	—
Togo	\	—	—	—	—	—
Tunisia	—	—	—	—	—	\[7]
Uganda	—	\	—	—	—	—
Zaire	\	—	—	—	—	—
Zambia	—	\	\	—	\[5]	—
Zimbabwe	—	\	\	\	—	—
Oceania						
Australia	—	\	\[21]	—	\[22.5]	—
New Zealand	—	\	\	\	—	—
Papua New Guinea	—	\	—	—	—	—

abortion statute does not guarantee that the procedure is widely available. Lack of medical personnel and facilities or conservative attitudes among physicians and hospital administrators may curtail access, especially for economically or socially deprived women, as in parts of Austria, France, the German Federal Republic, India, Italy and the United States.

The legal status of abortion depends not only on the wording of the relevant statutes but also, importantly, on court decisions and on the legal interpretations of government authorities. Thus, similar statutes may take on different meanings in different countries. The descriptions in this chapter reflect some of the court decisions interpreting the statutes, but do not incorporate all of the case law. In addition, because the statute governing abortion may be susceptible to interpretations that have never been tested in the courts, abortion may be legal under circumstances other than those indicated in Table 1. The most detailed worldwide summary of abortion laws is that by Jan Stepan (United Nations, 1979). For more recent overviews, see David (1981) and, for the Commonwealth countries, Cook and Dickens (1983).

Trends

Over the past 20 years, a large number of jurisdictions have liberalized their abortion laws to various degrees. These include Austria, Burundi, Canada, the People's Republic of China, Cuba, Denmark, Finland, France, the German Democratic Republic, the German Federal Republic, Ghana, Hong Kong, India, Italy, Kuwait, Liberia, the Netherlands, Norway, Portugal, Singapore, Spain, Sweden, Taiwan, Tunisia, Turkey, the United Kingdom, the United States, Yugoslavia, Zambia, Zimbabwe and a number of smaller areas with populations under one million. Four countries adopted more limiting legislation than had previously been in force: Romania, which imposed a very restrictive policy, and Bulgaria, Czechoslovakia and Hungary, which imposed limitations that were less severe. Four other countries liberalized their abortion policies and later made them more restrictive: Iran, Israel, New Zealand and the United States. Two countries amended their constitutions over the past decade to protect the "right to life" of the unborn: Chile in 1976, by action of its military government, and the Republic of Ireland in 1983, by popular referendum. An attempt to amend the Constitution of the United States was made in 1983 but failed in the Senate and never reached the floor of the House of Representatives. In 1980 and 1981, two international bodies, the European Commission of Human Rights and the Inter-American Commission on Human Rights, held that the "protection of life," as the phrase is used in some international documents, does not cover the embryo.

The trend toward liberalization is continuing, and several of the changes noted above have taken place since 1980. Attempts at further liberalization persist both through court challenges (e.g., Australia, Canada) and legislative action. Clarification of such issues as whether criminal liability exists when pregnancy has not been proven may result in important changes in some countries.

Major reasons advanced by advocates of less-restrictive abortion legislation, and especially of abortion on request, have been to combat illegal abortion and its associated morbidity and mortality, to give poor women access to abortion previously available only to the well-to-do and to secure a postulated right of all women to decide on their pregnancy and motherhood. A desire to curb population growth, in the interest of economic and social development, has been an explicit reason for the adoption of less restrictive abortion policies in only a few countries, such as Singapore, Tunisia and, more recently, the People's Republic of China. The majority of countries permitting abortion at the request of the pregnant woman or on broadly interpreted social indications have low birthrates, and some of them actively pursue pronatalist population policies.

Opposition to the liberalization of abortion laws has come traditionally from conservative groups, mainly on moral and religious grounds; the hierarchy of the Roman Catholic Church has been the most vigorous and articulate opponent. Antiabortion policies are also favored by fundamentalist Protestants and Muslims and by some Orthodox Jews. Concern about low birthrates has been a major reason for recent restrictive legislation in Eastern Europe.

Because of its moral implications, abortion has become one of the most emotional and divisive political issues in a number of countries, including some where restrictive legislation is still in force and others where a liberal policy appeared to be firmly established a few years ago (IPPF, 1979; Jaffe et al., 1981). In the United States, opposition to abortion has led to violent action, including at least 61 incidents of bombing or arson directed against abortion clinics between 1977 and May 1986 (National Abortion Federation, 1986).

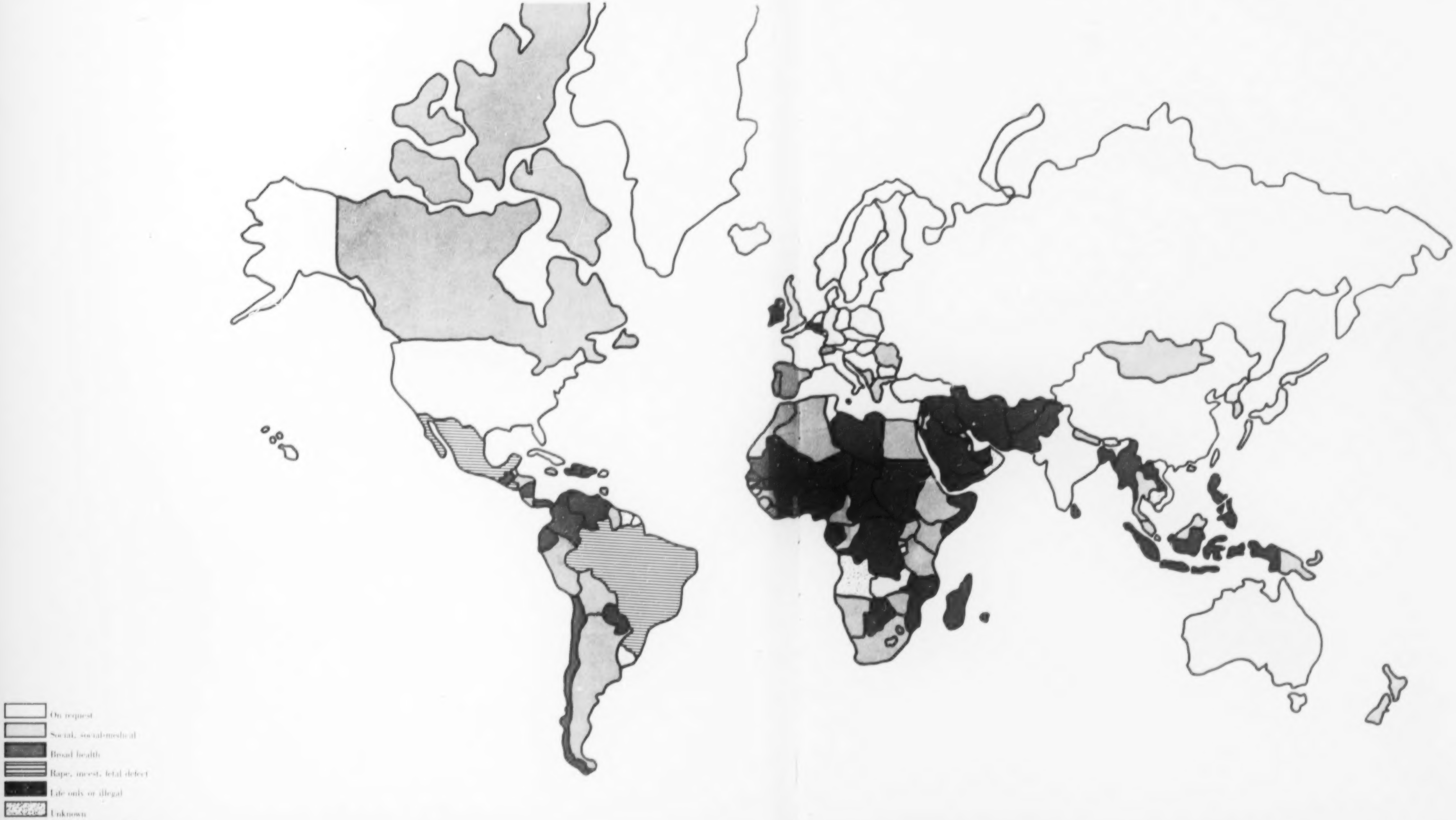
The Americas

In the *United States*, the tradition of the English common law that abortion was not a crime before the fetus quickened and that a woman who had an abortion was immune from prosecution prevailed well into the 19th century. Connecticut was the first state to deal with the subject through legislation, by addressing it in its revised criminal code in 1821; and in 1840, Massachusetts became the first state to enact a law dealing separately and exclusively with abortion. Of the 33 states existing in 1860, 20 had statutory provisions on abortion. Seventeen of these retained the common-law immunity of women, and about one-half incorporated the common-law principle that abortion was a crime only after quickening.

After 1860, the medical profession began well-organized antiabortion campaigns, a major purpose being to gain a professional advantage over lay practitioners. These campaigns, as well as public reaction to explicit and flamboyant advertisements by abortionists and apothecaries and to sensationally reported abortion cases in the courts, caused

Continued on page 18.

Map 1. Legal status of abortion, ca. 1986


On request
Social, social-medical
Broad health
Rape, incest, fetal defect
Life only or illegal
Unknown

legislatures to review the subject and to enact restrictive laws, which remained in force with little change for the next century. In most states, a threat to the life of the pregnant woman became the sole legal ground on which abortion could be performed; in a few states, a serious threat to the woman's health was included (Mohr, 1978).

A more liberal type of legislation was proposed by the American Law Institute in 1962. Following the example set by the countries of northern Europe, the relevant paragraph of the institute's model penal code would have permitted abortion in cases where a licensed physician "believes there is substantial risk that continuance of the pregnancy would gravely impair the physical or mental health of the mother or that the child would be born with grave physical or mental defect" or where the pregnancy resulted from forcible or statutory rape or incest (American Law Institute, 1962, pp. 189–191). Beginning with Colorado in 1967, 13 states adopted legislation based on the model penal code (United States, 1974).

In 1970, the legislatures of Alaska, Hawaii and New York enacted laws that did not specify the indications on which a pregnancy could be terminated, thus in effect authorizing abortion on request. In the state of Washington, the same result was achieved by popular referendum. Concurrently with the activity in the legislatures, a number of test cases challenging the constitutionality of restrictive abortion laws were initiated in several jurisdictions. As a result of a decision by the Supreme Court of the United States in one of these cases, elective abortion became available in that year in the District of Columbia.

In January 1973, two landmark decisions invalidating the abortion laws of most states were handed down by the Supreme Court (United States, 1973). In one of these cases, *Roe* v. *Wade*, the Court ruled, 7–2, that during the first trimester, "the abortion decision and its effectuation must be left to the medical judgment of the pregnant woman's attending physician," in consultation with the pregnant woman. After the first trimester, "the State . . . may, if it chooses, regulate the abortion procedure in ways that are reasonably related to maternal health." After the fetus has reached viability, "the State . . . may, if it chooses . . . proscribe abortion except where necessary . . . for the preservation of the life or health of the mother." In the other case, *Doe* v. *Bolton*, the Supreme Court struck down a number of procedural provisions, such as the requirements that the termination of pregnancy be authorized by an abortion committee and that the woman seeking abortion must be a resident of the state in which the operation is to be performed. The Court also stressed that the attending physician's "medical judgment may be exercised in the light of all factors—physical, emotional, psychological, familial, and the woman's age—relevant to the well-being of this patient." This statement echoes the World Health Organization's definition of health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 1948, p. 100).

The reception of these decisions ranged between enthusiastic support by those committed to women's "right to choose" and emphatic rejection by an increasingly well-organized, well-financed and vocal "right-to-life" movement. Under political pressure from the latter group, the legislatures of a number of states took a variety of actions to prevent, limit or delay implementation. These actions were promptly challenged in the courts, and in 1976, the Supreme Court struck down state laws requiring spousal consent and restricted legislative requirements of parental consent, with the comment that a statute is constitutional only if it "permits a mature minor capable of giving informed consent to obtain, without undue burden, an order [from a judge] permitting the abortion without parental consultation, and, further, permits even a minor incapable of giving informed consent to obtain an order without parental consultation where there is a showing that the abortion would be in her best interests" (AGI, 1976). Laws providing for such "judicial bypass" have since been enacted in several states, but their usefulness to the young women who feel they cannot reveal their sexual activity to their parents remains questionable (Donovan, 1983; Sollom and Donovan, 1985).

In decisions in 1977 and 1980, the U.S. Supreme Court found that neither the federal government nor the states are constitutionally required to pay for abortions for poor women, even though they pay the medical costs of childbearing.

In 1983, the Court struck down as unconstitutional a number of restrictions enacted by the city of Akron, Ohio, including a waiting period of 24 hours and a requirement that all midtrimester abortions be performed in hospitals. In 1986, by a vote of 5–4, the Court again rejected certain state requirements, in the case of *Thornburgh* v. *American College of Obstetricians and Gynecologists*. The decision indicates that states may not attempt to influence women's decisions about abortion by, for example, requiring that they be given certain information. The Court also found Pennsylvania's statistical reporting requirements to be impermissible, because the identities of the abortion patients might be revealed. The Court used the 1983 and 1986 decisions as occasions to reaffirm *Roe* v. *Wade*.

In *Canada*, a restrictive abortion law was modestly liberalized in 1969 to permit termination of pregnancy only in hospitals and only if a committee of not fewer than three physicians, appointed by the hospital board, certifies by a majority of its members that the continuation of the pregnancy "would or would be likely to" endanger the life or health of the pregnant woman (IDHL, 1970b). By 1982, only 30 percent of all public general hospitals in Canada had established abortion committees; 19 percent of these hospitals reported no abortions during that year.

In Quebec, the federal abortion law was openly challenged by Dr. Henry Morgentaler, who performed abortions in a nonhospital clinic without prior committee authorizations. After three juries refused to convict Dr. Morgentaler of criminal abortion, the provincial government began to pay for abortions performed in nonhospital clinics in Montreal and elsewhere, and to encourage other clinics to provide abortion services. Dr. Morgentaler has since challenged the law in Toronto, where he was again acquitted in a jury trial, and in Winnipeg. The Supreme Court of Canada is expected to rule on the constitutionality of the abortion law under the new Canadian Charter on Rights and Freedoms.

Laws are generally restrictive in *Latin America and the Caribbean*, although abortion is widely performed by both physicians and nonmedical practitioners. Two-thirds of Latin American countries permit abortion only to avert a threat to the pregnant woman's life; the others recognize broader medical indications. Seven countries allow termination of pregnancy in case of rape or incest. Some attempts to liberalize the laws have been made — for example, in *Colombia* and *Costa Rica* — but these have been unsuccessful because of the strong influence of the Catholic Church hierarchy. In *Uruguay*, where abortion had been legal from 1933 to 1938 (Thevenet, 1978, pp. 52–53), penalties may be waived if the abortion is performed during the first three months of pregnancy for reasons of serious economic stress.

In *Cuba*, elective abortions have been available in government hospitals since the mid-1960s (Hollerbach, 1980). Women may obtain abortions on request through 10 weeks of gestation; later abortions require approval. *Puerto Rico* is subject to the jurisdiction of the Supreme Court of the United States; therefore, *Roe* v. *Wade* applies.

Most of the small countries of the Caribbean area are former British colonies whose laws are based on an 1861 English act that prohibits induced abortion. In general, abortions are allowed for physical and mental health reasons under the precedent of a 1938 English court decision, *Rex* v. *Bourne*, interpreting the act. *Barbados*, *Belize*, *Bermuda* and *Montserrat* have recently enacted more liberal laws permitting abortion for additional reasons, including fetal indications and, in some instances, rape and socioeconomic reasons.

Europe

The first definitive steps toward the liberalization of abortion laws were taken by three of the five Nordic countries: *Iceland* (1935), *Sweden* (1937) and *Denmark* (1938). After World War II, Denmark and Sweden further liberalized their laws, and new statutes were enacted in *Finland* and *Norway*. The range of acceptable grounds for abortion was roughly the same in each of these countries and included medical, eugenic, juridical and social-medical indications. The more recent statutes extended the traditional eugenic indications (which covered the hereditary transmission of mental disease, mental retardation and other severe maladies and defects) to include any damage incurred during intrauterine life. A Danish law of 1970 authorized termination of pregnancy on request during the first 12 weeks of gestation for all women over age 38 living in Denmark and for those with four or more living children (IDHL, 1970a). A similar statute, with age 40 as a cutoff point for elective abortion, was also enacted in Finland (IDHL, 1970c, 1979a).

The first Western European law permitting abortion on request during the first trimester (a "first-trimester" model) was the Danish law of June 13, 1973. It authorizes abortion on request during the first trimester for all women. At later stages of pregnancy, abortion may be performed on any of the grounds listed in the 1970 statute (IDHL, 1973c). In practice, about 90 percent of requests for abortion at 13–16 weeks are approved (Ketting and van Praag, 1985). A Swedish law implemented in January 1975 goes even further, by specifically recognizing the woman's right, in the absence of medical contraindications, to have her pregnancy terminated up to the end of the 18th week of gestation. Beyond that point, abortion can be approved in exceptional cases by the National Board of Health and Welfare (IDHL, 1974g). Iceland (IDHL, 1977c) and Norway (IDHL, 1975b) also liberalized their abortion laws in 1975, stopping just short of authorizing abortion at the request of the pregnant woman, following the Danish and Swedish models. Three years later, however, Norway legalized abortion on request during the first 12 weeks of gestation. The new law took effect on January 1, 1979 (IDHL, 1979b, 1980a).

According to the common law, which is the basis of the British legal system, abortion was not an indictable offense in *Britain* from 1327 to 1803. At that time, it became a felony, but punishment was less severe for doctors who performed an abortion prior to quickening than for those who did so later in gestation (Means, 1971). The Offences Against the Person Act of 1861 made "unlawfully" induced abortion a felony regardless of the duration of the pregnancy. The act did not define "unlawfully" and made no provision for the termination of pregnancy on medical grounds. However, in the 1938 case of *Rex v. Bourne*, a judge ruled that abortion need not be unlawful if it is performed in good faith to preserve the mother's life. The jury was further instructed that "if the doctor is of the opinion . . . that the probable consequences . . . will be to make the woman a physical and mental wreck, the jury is quite entitled to take the view that the doctor . . . is operating for the purpose of preserving the life of the mother" (Potts et al., 1977, p. 289). Bourne, who had performed an abortion on a young woman who had been raped by several men, was acquitted, and a legal precedent was set. The Bourne decision applies to most Commonwealth countries (Cook and Dickens, 1983).

Almost 30 years later, in October 1967, after a long and bitter legislative struggle, the British Parliament enacted a pioneering statute among the modern liberalizing laws of Western Europe. This act authorizes abortions if two physicians "are of the opinion, formed in good faith: (a) that the continuance of the pregnancy would involve risk to the life of the pregnant woman or [risk] of injury to the physical or mental health of the pregnant woman or any existing children of her family, greater than if the pregnancy were terminated; (b) that there is a substantial risk that if the child were born it would suffer from such physical or mental abnormalities as to be seriously handicapped"

(IDHL, 1967b, p. 887). The act provides further that in determining whether there is such risk of injury to health, "account may be taken of the pregnant woman's actual or reasonably foreseeable environment." Abortions may be performed in National Health Service (NHS) hospitals or in other facilities approved by the Minister of Health. The latter category includes mainly private nursing homes. The law, which came into force on April 27, 1968, applies to *England, Wales* and *Scotland*, but not to *Northern Ireland*, where abortion continues to be restricted.

The British Abortion Act of 1967 contains a number of major innovations. Potentially most important were the seven words "greater than if the pregnancy were terminated" qualifying the "risk to life or injury to physical or mental health" if the pregnancy were continued. Although this clause was inserted at a late stage in the legislative process at the request of the Lord Chief Justice and with support from opponents of liberalization, it has been interpreted as justifying abortion on relatively minor medical indications, since the risk to life or health, in early pregnancy at least, is substantially less than the risk normally associated with pregnancy and childbirth. Another important idea is contained in the words "or any existing children of her family." This phrase constitutes a recognition of the fact that the mother and her entire family may be adversely affected by the birth of an unwanted child. The law does not establish administrative machinery to authorize the termination of pregnancy. The woman's request can be approved by any two physicians in whose judgment the required conditions are met.

Because of numerous complaints about uneven application in various parts of Great Britain, as well as about other alleged abuses, the implementation of the Abortion Act was reviewed by a committee appointed in 1971. The committee was "concerned with the way the Act is working and not with the principles that underlie it." Its report, issued in 1974, contained a number of recommendations, the most important of which was to urge greater utilization of outpatient procedures (United Kingdom, 1974a, Vol. I, pp. 147–150). Over the past several years, a number of attempts have been made in Parliament to restrict the Abortion Act of 1967 in various ways. So far, these efforts have been unsuccessful. However, under threat of legislation, private abortion clinics agreed in 1985 to limit abortion to 24 or fewer weeks' gestation, and the National Health Service has adopted the same restriction.

All countries in Western Europe with the exception of the Nordic countries and Great Britain, had restrictive abortion laws until 1975. In that year, a revision of the *Austrian* penal code passed in the preceding year came into force, permitting elective abortion during the first three months[1] (IDHL, 1975a). A few days later, *France* authorized, for a period of five years, abortion on request during the first 10 weeks of pregnancy, provided that a number of conditions, including the following, were met: (1) After applying for an abortion, the pregnant woman must receive counseling at an approved social service agency; (2) after this consultation, a waiting period of one week must be observed; and (3) the number of elective abortions in any institution must not exceed one-fourth of all obstetric and surgical procedures (IDHL, 1975b). This 25-percent rule was meant to prevent the creation of independent, commercial abortion clinics. The statute was made permanent, with minor changes, in late 1979 (IDHL, 1980b).

The *German Federal Republic* passed a new abortion law in 1974, authorizing abortion on request during the first trimester (IDHL, 1974b). This law, however, was struck down by the Constitutional Court. Following guidelines set by the Court, revised legislation was adopted by the federal legislature in May 1976. The new law permits abortion if, "according to medical findings, a pregnancy termination is indicated, taking account of the present and future living conditions of the pregnant woman, in order to avert a risk to the life or a risk of serious damage to the physical and mental state of health of the pregnant woman, and [if] such risk cannot be averted by any other means that the woman can be expected to accept." Abortion may also be performed until 22 weeks "from conception" if, according to medical opinion, "imperative grounds exist for presuming that, as a consequence of a hereditary predisposition or harmful influences prior to birth, the child would suffer from irremediable injury to its state of health of such gravity that the pregnant woman cannot be required to continue the pregnancy to term." And it can be performed until 12 weeks from conception in cases of rape and other forms of sexual abuse, and if "a pregnancy termination is otherwise indicated in order to prevent the pregnant woman from being exposed to the risk of serious consequences which: (a) are of such gravity that the pregnant woman cannot be expected to continue the pregnancy to term; and (b) cannot be averted by any other means that the woman can be expected to accept" (IDHL., 1976a, p. 563). It is clear that this last provision gives considerable latitude to the physician. The use of the words "from conception" implies upper gestational limits of 14 or 24 weeks from the woman's last menstrual period, depending on which indication is applicable.

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[1] Duration of pregnancy is defined as weeks since conception (which is two weeks less than gestation measured from the last menstrual period) in Austria, France, the German Federal Republic and Italy.

For all abortions other than those performed to avert a risk to life or health "deriving from a somatic disease or physical injury," the German law requires that the woman be counseled concerning "public and private assistance available to pregnant women, mothers and children" and that she wait three days after such counseling before the abortion is performed. The physician authorizing the abortion is not allowed to carry out the procedure.

An innovative feature of the law is a provision under which "procedures that take effect before nidation of the fertilized ovum in the uterus has occurred" are not considered abortions. A similar provision, removing the possibility of legalistic objections to the IUD, morning-after pill and menstrual regulation, was included in the 1981 abortion law of the Netherlands.

In May 1978, *Italy* liberalized its abortion law. Provided that they first seek consultation, women over age 18 may obtain an abortion in the first trimester for medical, economic, social, family or psychological reasons, or if there is a risk of defect in the fetus. Women have the right to obtain an abortion after a seven-day waiting period. Abortions after the first trimester are permitted if continued pregnancy endangers the health of the woman or if there are grounds for believing the fetus is defective. Women under 18 years of age are required to obtain parental consent for abortions. The number of abortions in any institution may not exceed 20 percent of all surgical and obstetric procedures (IDHL., 1978a). An attempt to return to restrictive legislation was defeated by popular referendum in May 1981, as was a proposal in the same referendum to further liberalize the law.

Strong opposition to the new abortion laws has been expressed by many members of the medical profession in Austria, France, the German Federal Republic and Italy; the availability of abortion services remains uneven in all four countries. However, constitutional courts of Austria, France and Italy (unlike that of the German Federal Republic) have upheld the more liberal laws against objections that allowing a first-trimester abortion violates constitutional protection of life.

In the *Netherlands*, a bill authorizing abortion on request of the pregnant woman was passed in 1981 and went into effect at the end of 1984. This action marked the end of a decade during which the Netherlands presented a unique combination of a restrictive law and extremely liberal practice. During 1975–81, about 20 mostly nonprofit clinics openly performed almost 500,000 abortions, of which more than four-fifths were obtained by women from countries where abortion services were less accessible (Ketting and Leliveld, 1982; Ketting and Schnabel, 1980).

In *Greece*, abortion up to 12 weeks in cases of risk to mental health, as determined by a psychiatrist on the staff of a public hospital, and up to 20 weeks for eugenic reasons, was legalized in 1978 (IDHL., 1979d). The Minister of Justice has said that the remaining restrictions are ignored in practice, and legislation is pending that would allow abortion on request (Anastasi, 1984).

In *Switzerland*, propositions to liberalize the national abortion statute have been rejected by several popular referenda, as was a 1985 attempt to restrict abortions to cases where the woman's life is endangered. The current law permitting abortion on medical grounds is very liberally interpreted in some cantons (most of the French-speaking ones) and in the cities of Zurich and Basel, and very narrowly in others.

Portugal and *Spain* have been the most recent European countries to liberalize their laws. In 1984, Portugal legalized abortion to avert a risk of "serious and lasting damage" to the physical or mental health of the woman, and in cases of rape or fetal abnormality (IDHL, 1984b). A similar law was passed in Spain in 1985, after an earlier liberalization law was found unconstitutional by the country's constitutional court.

Belgium, the *Republic of Ireland* and *Malta* are the only countries in Europe where abortion is legal only in cases of life endangerment.

A detailed description of the legal status and practice of abortion in nine Western European countries may be found in Ketting and van Praag (1985—in German) and in an earlier edition of this book (1983).

In 1920, the Soviet Union became the first of the socialist countries of *Eastern and Central Europe* to legalize abortion on request (David and McIntyre, 1981). This nonrestrictive policy was reversed in 1936 by a decree limiting legal abortion to a list of specified medical and eugenic indications, but was reinstituted in 1955, when the decree of 1936 was repealed. In the words of the preamble to the 1955 Soviet ordinance, its aims were "the limitation of harm caused to the health of women by abortions carried out outside of hospitals" and to give "women the possibility of deciding themselves the question of motherhood" (Field, 1956). Other socialist countries, with the exception of *Albania* and the *German Democratic Republic*, liberalized their abortion laws in 1956–57. The new statutes permitted abortion on request or on broadly interpreted social indications during the first trimester (in *Hungary*, up to 18 weeks in the case of minors). Abortions in the second trimester were permitted for medical reasons only. In several countries, abortion was not allowed if the pregnant woman had obtained an induced abortion within the previous six months.

In recent years, some of the socialist countries have adopted more restrictive policies in response to concern about low birthrates. The change was most drastic in *Romania*, where a 1957 statute permitting elective abortions was reversed in 1966. At that time, a decree was issued restricting abortion to women over age 45 (lowered to age 40 in 1972) or to women supporting four or more children, in addition to the usual medical, eugenic and juridical indications (IDHL, 1967a, 1974e). After a sharp drop in 1967, the number of abortions gradually increased until 1984, when new measures to enforce a restrictive policy were announced. Interpretation of the basic law was tightened and new emphasis was placed on the prevention of illegal abortions. Among the new measures were prison terms for both the woman and the physician in cases of illegal abortion, monthly monitoring of pregnant women and investigation of all spontaneous abortions. The goal is to raise the birthrate from the 1983 level of 14.3 per 1,000 population to 19–21 per 1,000. In furtherance of this goal, importation of modern contraceptives is prohibited ("Country notes," 1984).

In *Bulgaria*, abortion on request was available from 1956 to 1968. Instructions by the Ministry of Public Health in February 1968 and again in April 1973 (modified in 1974) have limited access to elective abortions to married women with two or more living children, unmarried women of any age and married women over 40 with one living child. In addition, the maximum gestation at which abortion may be performed was reduced from 12 to 10 weeks (IDHL, 1968, 1973b, 1974f).

In *Czechoslovakia*, applications for abortion have been adjudicated by commissions since the enactment of the liberalized law in 1957 (IDHL, 1959). Although some of the provisions of the law were tightened in 1961 (IDHL, 1962), virtually all abortions on medical indication and most of those requested for other reasons continued to be approved. A 1973 directive restricted to exceptional cases the approval of applications for abortion on social grounds made by married women without living children or with only one living child. Abortion on medical indication was regulated by a list of approved diagnoses that limited consideration of mental health to severe disorders, such as reactive depression with suicidal tendencies confirmed by hospitalization; the previous list had referred to suicidal tendencies without mention of hospitalization (IDHL, 1974a). Some of the 1973 restrictions were relaxed in 1980.

In Hungary, too, abortion committees had been maintained throughout the period of abortion on request (1956–73), but their function was purely advisory, since applications had to be approved if the woman persisted (IDHL, 1958). Since January 1, 1974, access to abortion has been restricted. Termination of pregnancy on request is still available to single, divorced, separated and widowed women; to married women over age 35; and to married women who have at least three living children, or have experienced three deliveries, or have two living children and have undergone at least one "obstetrical event." This term includes live births, stillbirths, ectopic pregnancies, spontaneous abortions and induced abortions. The last may be taken into account only if they occurred after the woman's second delivery. Women who do not meet these requirements may obtain abortions on medical, eugenic and juridical grounds. The only social indication that makes approval mandatory is lack of adequate housing, defined as a separate dwelling unit (IDHL, 1974d).

In *Poland*, the law of 1956 stipulated a "difficult social situation" as an acceptable reason for abortion and made the physician responsible for the determination of its existence. In early 1960, however, an oral declaration by the pregnant woman became sufficient to establish her need for abortion. Substantial opposition to the liberal abortion law, mainly on religious grounds, was revealed by a survey conducted by the Central Statistical Office in 1972 (Mazur, 1981).

The *German Democratic Republic* did not participate in the general liberalization of abortion laws during the 1950s. After World War II, the harsh restrictions against abortion of the Third Reich were replaced by state laws under which legal abortions could be performed on medical, eugenic and juridical indications and, to some extent, on social and economic grounds. In an attempt to increase the number of births, these statutes were superseded in 1950 by a new law that permitted abortion on medical and eugenic indications only. In 1965, an extension of the medical indication was administratively authorized, taking into account the woman's social environment. In 1972, legislation was enacted permitting abortion on request during the first 12 weeks of pregnancy (IDHL, 1972b). In Section 1 (1), the law stipulates the following: "In addition to the existing possibilities of contraception, a woman shall have the right to decide on the interruption of her pregnancy on her own responsibility, so as to be able to control the number, timing and spacing of births."

Yugoslavia is the only country in Eastern Europe where a woman's right to "free decision on childbirth" is anchored in its federal constitution, adopted in 1974. This provision was implemented between 1977 and 1979 by the several republics and autonomous provinces. Abortion must be performed at the request of the pregnant woman, without committee approval, if the duration of pregnancy is less than 10 weeks. The decision on abortion after 10 weeks is left to committees consisting of physicians and social workers; permission may be granted on the basis of medical, eugenic, juridical and social indications (Alinčić, 1980; IDHL, 1977d, 1979e).

A feature of the abortion law of several Socialist European countries, though not unique to them, is the exclusion of the pregnant woman from criminal responsibility. By terminating her pregnancy or consenting to an abortion performed by another person, a pregnant woman does not commit an offense under the laws of Bulgaria, Czechoslovakia, Poland, the Soviet Union and Yugoslavia. Similar provisions are in effect in Cuba, Denmark, Israel, Liberia, Norway and Sweden. In most other countries, the pregnant woman is subject to prosecution, although in some areas the penalty may be mild (e.g., a fine in New Zealand) or the court may refrain from punishing her (the German Federal Republic).

Asia and North Africa

In the *People's Republic of China*, abortion at the request of the pregnant woman was legalized de facto in 1957 by a directive from the Ministry of Health stating that henceforth, requests for abortion "must be granted without restrictions in regard to the age of the applicant or the number of her children and without the requirement of special approval procedures." However, elective abortion was limited to the first 10 weeks of gestation and could not be performed on the same woman more than once a year (Aird, 1972, p. 263). The directive had been preceded by discussion in the press and in Communist Party committees over several months and was apparently issued over strong opposition by the medical profession, which did not subside until 1963 (Ibid., p. 299). Since 1972, abortion has been reported to be freely available, usually performed during the first 12 weeks of pregnancy. A new criminal code, enacted in 1979, contains no reference to abortion (United Nations, 1979, p. 50). With the inauguration of China's one-child campaign in 1979, induced abortion became an important component of the national effort to reduce the rate of population growth. Abortion is one of the four "planned birth operations"; the other three are vasectomy, tubal sterilization and insertion (or removal) of an intrauterine device.

> [The State Council Birth Planning Staff Office sets] yearly targets for natural increase rates in the various provinces. . . . Each province, upon receiving the target that the central government has established for it. . . . allocates a birth quota for each of the prefectures under its jurisdiction. The process is repeated downward until it reaches the production team. . . . The production team must work out its birth plan, . . . assigning permission to have children to those couples who have observed the three reproductive norms. Childless couples and couples intending to marry soon who have observed the late marriage norm have first priority, followed by couples who have one child aged three or older. If the eligible number of couples is larger than the quota allowed, some eligible couples must wait until the following year. . . . Each production team, having worked out its team plan, submits it to the brigade, which in turn works out a brigade plan. The brigades send their plans up to the commune. . . .
>
> Once a commune birth plan is approved, the members of the commune are expected to implement it. Couples who have been given permission to have a child are issued a 'planned birth card' and may forgo contraception; others are expected to practice contraception or to undergo abortion in the event of contraceptive failure. . . . Because every unplanned birth in defiance of the community decision means that an eligible couple must give up a birth permission they deserve and have earned, there is a collective interest in seeing that the community plan of births is carried out. . . . In the process, community and/or peer pressure ensure its successful implementation.
>
> In isolated instances, local authorities, under pressure to improve program performance, have resorted to high-handed methods. These have included . . . intense community pressure . . . to undergo abortion in order to fulfill quotas. The central government has repeatedly condemned and forbidden such practices, and emphasized

> the importance of . . . education and persuasion (Chen, 1982, pp. 208–209).

Others have painted a picture of Chinese abortion policies that is less benign (Aird, 1982, pp. 284–288), but the one-child policy as implemented allows for many exceptions. For example, in Shaanxi Province, a second child may be approved for couples in the following circumstances, among others: Both partners are only children, minority nationalities or returned overseas Chinese; they live in a remote village; and their first child has died or is deformed (China, 1983).

In *Taiwan*, abortion on social, medical and juridical grounds was legalized in 1985. For married women, the husband's consent is necessary if the grounds are socioeconomic (Taiwan, 1985). Previously, abortion was categorically prohibited but apparently was readily available from medical practitioners throughout the island.

In *Japan*, abortion was not considered a criminal act prior to the adoption in 1880 of a code derived from the French legal system. Since 1948, Article 14 of the Eugenic Protection Law has permitted termination of pregnancy, with the husband's consent, for a woman "whose health may be affected seriously by continuation of pregnancy or by delivery from the physical or economic viewpoint" (Muramatsu, 1967, p. 68). The interpretation of this paragraph by the medical profession and by the authorities has been tantamount to making abortion available on request. In late 1972 and again in 1974, proposals were advanced in the legislature to remove the economic element from the indications for abortion, replacing it with considerations of mental health. According to these proposals, termination of pregnancy would be permitted when the pregnant woman's physical or mental health was thought to be seriously threatened by the continuation of pregnancy or by delivery (Muramatsu and Kuroda, 1974). So far, no action has been taken. In 1976, however, the upper limit of the gestational period during which abortion may be performed was reduced from 28 to 24 weeks.

Prior to 1973, abortion in the *Republic of Korea* was limited by law and judicial decisions to narrow medical indications. The law, however, was not enforced, and abortions could easily be obtained from gynecologists who performed the procedure in their private clinics. Large segments of the public were unaware of the legal status of abortion; for example, in a survey taken in 1971, two-thirds of respondents did not know that abortion was, in general, illegal (Hong and Watson, 1976, pp. 105–109). In 1973, legislation was adopted authorizing termination of pregnancy on medical, eugenic and juridical indications (IDHL, 1973d). The wording of the new law was far more restrictive than actual practice had been during recent years. The law remains a dead letter, however, and the government subsidizes abortions in the private sector if they are combined with surgical sterilization or if the pregnancy resulted from IUD failure.

In *Hong Kong*, abortion on medical indication, as defined in the British Abortion Act of 1967, was authorized in 1972 for a period of two years (IDHL, 1974c). The ordinance was extended for two additional years in 1974 and made permanent in 1976. In 1981, the law was further liberalized to include eugenic and juridical indications and all pregnancies among women under 16 years of age (IDHL, 1981). However, the clause of the British Act concerning the health of existing children does not apply in Hong Kong.

Abortion on request has been available in *Vietnam* since its unification in 1975. Earlier, only narrowly interpreted medical indications were acceptable in South Vietnam, while abortion on request was available in North Vietnam at least since 1971.

Singapore liberalized its abortion law in 1969, permitting termination of pregnancy on medical and social grounds (IDHL, 1970d). Abortion on request was legalized for all residents in 1974 and is permitted up to 24 weeks of gestation. Abortions must be performed in hospitals, and certain restrictions as to the qualifications of the physician apply after 16 weeks (IDHL, 1975c).

In *Malaysia*, abortion is permitted for broad health indications on the basis of the *Rex* v. *Bourne* decision. Menstrual regulation is provided and tolerated.

In *India*, legalization of abortion has been a matter of government concern for more than a decade. In 1971, a statute was adopted that regulated the performance of medical termination of pregnancy (MTP). Patterned after the British Abortion Act of 1967, it contained the important additions that a pregnancy alleged by the woman to have been caused by rape and, in the case of a married woman, a pregnancy resulting from contraceptive failure "may be presumed to constitute a grave injury to the mental health of the woman" and may be terminated by abortion (IDHL., 1971). In 1982/83, almost half of all reported abortions were performed on this indication, and another six percent were done for unspecified "environmental reasons" (India, 1984). By March 1984, about 4,600 facilities for the performance of MTP had received official approval (India, 1984), and by midyear, 9,900 general practitioners had been trained to supplement the country's 4,800 specialists in obstetrics and gynecology. However, only about 1,000 physicians were providing services in primary health centers in rural areas, where 78 percent of the country's population live (Bahl-Dhall, 1985).

In *Bangladesh*, legalization of first-trimester abortion on broad medical and social grounds was proposed as early as 1976 (Bangladesh, 1976, p. 12). As of late 1985, this law had not been implemented, and restrictive legislation remained in effect. Nevertheless, a memorandum from the Population Control and Family Planning Division states categorically that menstrual regulation (MR) is one of the methods used in the national family planning program (Bangladesh, 1979). The memorandum quotes a report from the Institute of Law to the effect that MR does not come under the provisions of the penal code in regard to abortion, because the fact of pregnancy cannot be established. The report goes on to say that "MR is now recognized as an interim method of establishing nonpregnancy for the woman who is at risk of being pregnant. Whether or not she is in fact pregnant is no longer an issue." MR can be performed "till the 10th week following a missed menstrual period." In at least some government-supported clinics, the procedure is performed by paramedical workers (Bhatia et al., 1980). According to the Second Five-Year Plan, released in 1980, "menstrual regulation facilities will be provided through the family planning clinics, welfare centers, all health centers and hospitals, etc." (Bangladesh, 1980, para. XVII/87). In *Pakistan* and *Sri Lanka*, abortion is permitted only to avert a threat to the pregnant woman's life.

In most of the countries of southwestern Asia and northern Africa, abortion is restricted to the termination of pregnancies on medical indication or is permitted in cases of life endangerment only (Nazer, 1972). An early exception was *Tunisia*, where abortion on request has been available since 1965 to women with five or more living children (IDHL., 1966). In September 1973, elective abortion was authorized for all women during the first trimester of pregnancy if performed by a physician in a hospital or clinic. After the third month, termination of pregnancy is permitted on medical, including psychiatric, and eugenic indications (IDHL., 1974b).

Under recent laws of *Kuwait* (IDHL., 1984a) and *Qatar* (IDHL., 1983), abortion may be authorized for health or eugenic reasons by a special committee, the members of which must be of the Muslim faith.

The 1983 Population Planning Law of *Turkey* allows abortion on request up to the end of the 10th week of pregnancy. The government has initiated a program for the training of young doctors who will be assigned to public hospitals.

In *Israel*, prohibitions against abortion under the British Offences Against the Person Act of 1861 remained in force until 1977; however, in 1952, the District Court of Haifa ruled that abortion openly performed on bona fide medical grounds was permissible. In practice, the law was not enforced, and abortions were freely obtainable from medical practitioners (Slater et al., 1978). In 1977, a modest liberalization was legislated, permitting abortion to avert "grave harm to the woman or her children owing to difficult family or social circumstances" (IDHL, 1977a). The social indication was rescinded in 1979.

In *Iran*, Parliament had in 1974 enacted revisions to the penal code authorizing, in effect, first-trimester abortion at the request of "the couple" or of an unmarried woman. Regulations implementing the revised code were not issued until 1976 (IDHL, 1976c); these provided, inter alia, for the performance of abortions in nonhospital clinics. It is not known to what extent, if any, this provision was implemented. According to newspaper reports, abortion in any form has since been outlawed by the revolutionary government.

Sub-Saharan Africa

In former British colonies that follow old legislation and the rule of *Rex* v. *Bourne*, the physical or mental health indications are accepted, except in *Botswana*, *Malawi*, *Mauritius* and the northern states of *Nigeria*. New legislation broadened those indications to fetal and juridical in *Seychelles* and *Zimbabwe* (where, however, a mental health indication is not accepted), and to fetal and socioeconomic indications in *Zambia* (Cook and Dickens, 1983). *Ghana* liberalized its law in 1985 to allow abortion on broad health, eugenic and juridical indications (Ghana, 1985).

In the former French and Belgian colonies, either old colonial codes of the Napoleonic model still apply or new legislation has been enacted that still shows the influence of the old criminal law concepts. Often, life endangerment is in theory the only indication under which abortion is allowed. Exceptions are *Rwanda*, where abortion is permitted if continuation of the pregnancy constitutes a serious danger to the health of the woman (Rwanda, 1977), and *Burundi*, where abortion is permitted under a health indication and "the requirements of the social milieu" must be taken into consideration in the prosecution and punishment of abortion providers (Burundi, 1981).

Liberia's criminal code of 1979 permits abortion for health, fetal and juridical reasons, and when the pregnant woman is less than 16 years old (IDHL, 1979e).

The revised laws described above may signal a trend toward modifying European-influenced law according to national and local customs.

Oceania

In *Australia*, the regulation of abortion falls within the jurisdiction of the several states. One of these, South Australia, liberalized its abortion law in 1969, following the pattern of the British Abortion Act of 1967, but omitting the clause concerning the health of existing children and prescribing that abortion be performed in a hospital (IDHL, 1972a). A similar statute was enacted in the Northern Territory in 1974 (IDHL, 1977b). A recent decision in Queensland confirmed that the *Rex* v. *Bourne* decision applies in that state. Abortion on social-medical grounds has been legalized by court decisions in New South Wales, the Capital Territory and Victoria (Cook and Dickens, 1979). As a result, and because there is no statutory requirement of hospitalization, abortion has become more accessible in these states than it is in South Australia. Nonprofit clinics have been established in several cities. The National Health Insurance Plan refunds about 80 percent of the fees charged by these clinics (Australia, 1977, p. 174).

Some liberalization of abortion statutes was achieved in *Fiji* and *New Zealand* in 1976 by judicial decision (Cook and Dickens, 1979). In the following year, however, New Zealand enacted legislation narrowing the indications for abortion and establishing cumbersome procedural requirements (IDHL, 1978b). The restrictions imposed by this statute were somewhat relaxed in 1978.

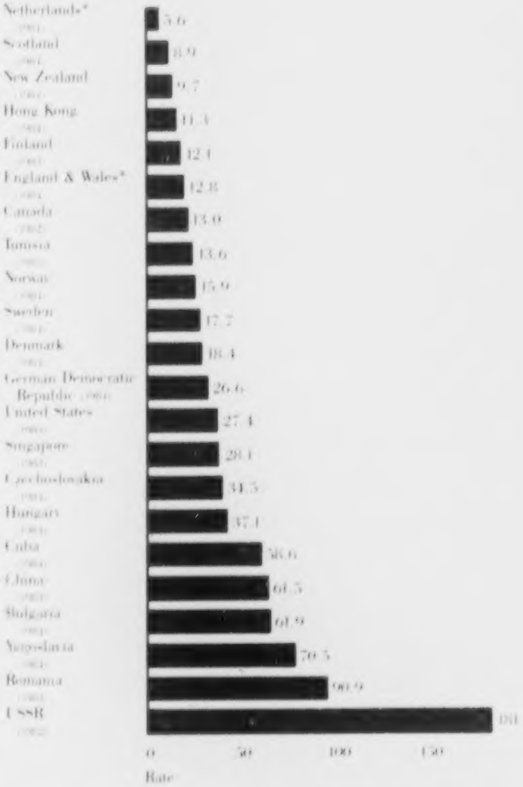
Incidence of Abortion

3

The number of induced abortions that take place in the world each year is uncertain because accurate counts are unavailable for many countries where abortion is legal and because estimates of the numbers of illegal abortions are generally unreliable. The countries where the largest numbers of abortions are performed are believed to be China and the Soviet Union. Together these two countries account for some 25 million legal abortions. The number of legal abortions in the other countries that have statistical reporting systems, shown in Table 2, amounted to some 4.9 million in the latest available year (excluding Romania, where the number of abortions may have dropped sharply as a result of new restrictive policies). Including estimates of the number of unrecorded legal abortions in countries where reporting is incomplete (especially India, Japan and Poland) and in countries with no published data (especially the Democratic Republic of Korea and Turkey), a reasonable estimate of the total number of induced legal abortions would be 33 million a year; the number could be as low as 30 million or as high as 40 million. Adding the estimated number of illegal abortions would increase the estimated total to 40–60 million abortions a year worldwide.[1] These numbers imply a worldwide abortion rate of 37–55 per 1,000 women between the ages of 15 and 44 and a ratio of 24–32 abortions per 100 known pregnancies (births plus abortions). Readers are cautioned that there is a high degree of uncertainty in the estimates of the total numbers of abortions, especially of illegal abortions.

Most of the statistics in Table 2 are based on official reports showing the numbers of abortions performed according to the laws of the countries concerned. In a few instances, secondary sources had to be used. Occasionally, the information for the most recent periods is preliminary and subject to later, presumably minor, revision. Figure 2 illustrates the range of abortion rates, using data from the most recent available years. Figure 3, which uses a logarithmic scale, shows changes in rates from year to year.

Figure 2. Legal abortion rate per 1,000 women aged 15–44: Selected areas, latest available year



*Residents only.

The Americas

United States and Canada

For almost a century prior to about 1960, the great majority of physicians in the *United States* interpreted the existing restrictive abortion laws narrowly, and few pregnancies were terminated openly. In fact, beginning in the 1940s or before, the rates and ratios of legal abortions declined, as the incidence of diseases thought to justify abortion, such as pulmonary tuberculosis, decreased and obstetricians learned to carry even very sick women through the risks of pregnancy and childbirth (Erhardt et al., 1970). After 1960, doctors' attitudes began to change: Mental health gained acceptance as a valid reason for the termination of

Continued on page 42.

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[1] In 1974, the International Planned Parenthood Federation estimated that up to 55 million induced abortions were performed each year (IPPF, 1974).

[2] The fiscal year of the United States extends from October through September; it is identified by the calendar year in which it ends.

[3] In the text, rates and ratios over 50 are rounded to the nearest whole number to reflect the probable degree of error in the data. Rates and ratios under 50 are also rounded when they are based on inaccurate data.

Table 2. Number of legal abortions, abortion rates and abortion ratios: Selected areas, years and characteristics

Area, year and characteristic	Number of abortions[1]	Abortion rate per 1,000		Abortion ratio per 100	
		Total population	Women 15–44	Live births[2]	Known pregnancies[3]
Australia[4]					
1984	54,600	3.5	15.2	(22.7)	(18.5)
Bangladesh[5]					
1975/76	*1,400*	*0.1*	*0.3*	*0.1*	*0.1*
1976/77	*6,700*	*0.1*	*0.4*	*0.2*	*0.2*
1977/78	*6,100*	*0.1*	*0.4*	*0.2*	*0.2*
1978/79	*4,400*	*0.1*	*0.3*	*0.1*	*0.1*
1979/80	*10,500*	*0.1*	*0.6*	*0.3*	*0.3*
1980/81	*28,000*	*0.3*	*1.6*	*0.7*	*0.7*
1981/82	*42,400*	*0.5*	*2.3*	*1.0*	*1.0*
1982/83	*58,600*	*0.6*	*3.1*	*1.4*	*1.4*
1983/84	*56,700*	*0.6*	*2.9*	*1.3*	*1.3*
1984/85	*68,600*	*0.7*	*3.4*	*1.6*	*1.5*
Bulgaria[6,7]					
1953[8]	1,100	0.2	0.6	0.7	0.7
1954	900	0.1	0.5	0.6	0.6
1955	2,200	0.3	1.2	1.5	1.5
1956	2,000	0.3	1.2	1.4	1.4
1957	31,700	4.1	18.2	22.7	18.5
1958	38,100	4.9	21.8	27.7	21.7
1959[9,10]	46,200	5.9	26.3	33.4	25.0
1960	51,000	6.5	29.0	36.7	26.9
1961	62,500	7.9	35.0	46.0	31.5
1962	75,100	9.4	41.5	56.4	36.1
1963[11]	81,000	10.0	44.1	61.6	38.1
1964	91,500	11.3	49.0	71.3	41.6
1965	96,600	11.8	51.0	77.6	43.7
1966	101,500	12.3	53.5	82.0	45.0
1967	108,500	13.0	57.2	81.5	44.9
1968	89,200	10.6	47.1	62.7	38.6
1969	106,900	12.7	56.4	75.9	43.1
1970	119,700	14.1	63.2	87.3	46.6
1971	131,300	15.4	69.5	98.5	49.6
1972	132,300	15.4	70.2	97.6	49.4
1973	112,300	13.0	59.7	77.7	43.7
1974	121,700	14.0	64.8	82.8	45.3
1975	120,400	13.8	64.3	83.2	45.4
1976	121,100	13.8	64.9	84.5	45.8
1977[12]	121,600	13.8	65.4	87.4	46.6
1978	127,800	14.5	69.0	94.0	48.5
1979	128,500	14.6	69.6	97.5	49.4
1980	140,200	15.8	76.7	111.0	52.6
1981	136,600	15.4	74.9	110.0	52.4
1982	133,000	14.9	73.1	108.0	52.0
1983	120,000	13.4	65.7	98.2	49.6
1984	113,500	12.6	61.9	(92.5)	(48.1)
Canada[13,14]					
1970	11,200	0.5	2.5	3.0	2.9
1971	30,900	1.4	6.6	8.3	7.7
1972	38,900	1.8	8.2	11.2	10.1
1973	43,200	2.0	8.9	12.7	11.3
1974	48,100	2.2	9.6	13.6	12.0
1975	49,300	2.2	9.6	13.3	11.8
1976	54,500	2.4	10.3	15.2	13.2
1977	57,600	2.5	10.6	16.0	13.8
1978	62,300	2.7	11.3	17.2	14.6
1979	65,000	2.7	11.6	17.7	15.0
1980	65,900	2.7	11.4	17.7	15.0
1981	65,100	2.7	11.1	17.5	14.9
1982	66,300	2.7	11.1	17.7	15.0
1983	61,800	2.5	10.2	16.5	14.2
1984	62,300	2.5	10.2	(16.5)	(14.2)

Notes: Dash (—) = not applicable; na = data not available. Figures printed in italics are believed to be inaccurate by at least 20 percent or are of unknown accuracy.

1. All numbers are rounded. Because of rounding, components may not add to totals. Data for most recent periods may be subject to revision.
2. Six months later. Ratios in parentheses are computed per 100 unlagged births.
3. Known pregnancies are defined as legal abortions plus live births six months later.
4. Australia, 1986.
5. Menstrual regulations: "Role of . . . ," 1986 (published by Bangladesh Association for Prevention of Septic Abortion). Reporting year ends June 30. Births and populations: United Nations, 1985b.
6. Includes abortions on request and for medical reasons.
7. Numbers of abortions differ from those shown in the UN *Demographic Yearbook*, which include "other abortions" (women admitted to hospitals for treatment of complications of spontaneous or illegally induced abortions).
8. 1953–58: Starkalev, et al., 1961.
9. 1959–62: Klinger, 1970. Data are for abortions on request.
10. 1959–62: Vassilev and Atanasov, 1974. Data are for abortions performed for medical reasons.
11. 1963–76: France, 1982, p. 281.
12. 1977–84: Based on responses to AGI questionnaire.
13. Residents only.
14. Canada, 1984 and 1986a.

Area, year and characteristic	Number of abortions[1]	Abortion rate per 1,000	Abortion ratio per 100		
		Total population	Women 15–44	Live births[2]	Known pregnancies[3]
Canada (continued)					
Including residents of Canada obtaining abortions in the United States and clinic abortions in Quebec					
1975[15]	59,000	2.6	11.4	15.9	13.7
1982[16]	77,500	3.1	13.0	20.7	17.2
China[17]					
1971	*3,910,100*	*4.7*	*23.1*	*13.9*	*12.2*
1972	*4,813,500*	*5.6*	*27.6*	*17.6*	*15.9*
1973	*5,110,400*	*5.8*	*28.5*	*20.0*	*16.7*
1974	*4,984,600*	*5.6*	*27.4*	*20.9*	*17.3*
1975	*5,084,300*	*5.6*	*27.5*	*23.1*	*18.7*
1976	*4,742,900*	*5.1*	*25.5*	*23.0*	*18.7*
1977	*5,229,600*	*5.5*	*27.7*	*25.7*	*20.4*
1978	*5,391,200*	*5.6*	*27.2*	*26.5*	*21.0*
1979	*7,856,600*	*8.1*	*38.2*	*40.9*	*29.0*
1980	*9,527,600*	*9.7*	*44.8*	*48.7*	*32.7*
1981	*8,696,900*	*8.7*	*39.5*	*40.8*	*29.0*
1982	*12,419,700*	*12.3*	*54.9*	*61.2*	*38.0*
1983	*14,371,800*	*14.1*	*61.5*	*(75.7)*	*(43.1)*
Cuba					
1968[18]	28,500	3.4	16.7	11.7	10.5
1969	46,100	5.5	26.6	19.2	16.1
1970	70,500	8.2	40.2	28.3	22.1
1971	84,800	9.8	47.4	33.6	25.2
1972	100,000	11.3	54.9	42.2	29.7
1973	112,100	12.4	60.3	52.3	34.3
1974	131,500	14.3	69.5	66.4	39.9
1975	126,100	13.5	65.3	66.2	39.8
1976	121,400	12.8	61.0	68.1	40.5
1977[19]	114,800	12.0	55.9	72.4	42.0
1978	110,400	11.3	52.1	75.7	43.1
1979	106,500	10.9	48.8	76.0	43.2
1980	104,000	10.7	47.1	76.1	43.2
1981[20]	108,600	11.1	48.3	79.5	44.3
1982	126,800	12.9	55.3	78.6	44.0
1983	124,800	12.6	53.4	76.3	43.3
1984	139,600	14.0	58.6	(84.9)	(45.9)
Czechoslovakia					
1954[21]	2,800	0.2	1.0	1.1	1.1
1955	2,100	0.2	0.8	0.8	0.8
1956	3,100	0.2	1.1	1.2	1.2
1957	7,300	0.5	2.7	2.9	2.8
1958[22]	61,400	4.6	22.8	28.0	21.9
1959	79,100	5.8	29.3	36.5	26.7
1960	88,300	6.5	32.5	40.5	28.8
1961	94,300	6.8	34.1	43.2	30.1
1962	89,800	6.5	31.5	40.3	28.7
1963	70,500	5.1	24.1	29.0	22.5
1964	70,700	5.0	23.6	29.8	22.9
1965[23]	79,600	5.6	26.3	35.4	26.1
1966	90,300	6.3	29.6	41.2	29.2
1967	96,400	6.7	31.4	45.2	31.1
1968	99,900	7.0	32.4	45.6	31.3
1969	102,800	7.1	33.1	45.7	31.4
1970	99,800	6.9	32.3	42.7	29.9
1971	97,300	6.8	31.4	39.8	28.5
1972	91,300	6.3	29.2	34.7	25.8
1973	81,200	5.6	25.9	28.0	21.9
1974	83,100	5.7	26.4	28.6	22.3
1975	81,700	5.5	25.9	29.8	22.9
1976	84,600	5.7	26.8	29.4	22.7
1977	89,000	5.9	27.9	31.8	24.1
1978	92,500	6.1	29.1	33.6	25.1

15. Canada, 1976. An estimated 9,600 Canadian women obtained abortions in the United States in 1975. No clinic abortions were funded by Quebec.

16. Based on estimate of 5,000 Canadian women obtaining abortions in the United States (Henshaw et al., 1985) and 6,200 in Quebec clinics (Quebec, 1983).

17. Abortions: China, 1984. Births in 1971–82: Coale, 1984. For 1983, births are estimated on the basis of U.S. Bureau of the Census unpublished data.

18. 1968–76: Rodriguez, 1978.

19. 1977–80: Cuba, 1981.

20. 1981–84: Data supplied to H.P. David by the Ministry of Public Health.

21. 1954–57: Vojta, 1961.

22. 1958–64: Frejka and Koubek, 1968.

23. 1965–84: Czechoslovakia, 1985.

Table 2 (continued)

Area, year and characteristic	Number of abortions[1]	Abortion rate per 1,000		Abortion ratio per 100	
		Total population	Women 15–44	Live births[2]	Known pregnancies[3]
Czechoslovakia (continued)					
1979	94,300	6.2	29.5	36.0	26.4
1980	100,200	6.5	31.1	42.1	29.6
1981	103,500	6.8	32.1	43.9	30.5
1982	107,007	7.0	33.0	46.5	31.8
1983	108,700	7.1	33.1	48.1	32.5
1984	113,800	7.4	34.5	(51.0)	(33.8)
Denmark					
1940–44[24,25]	800	0.2	0.9	1.0	1.0
1945–49	2,300	0.6	2.5	2.7	2.6
1950–54	4,700	1.1	5.1	6.1	5.8
1955–59	4,300	1.0	4.6	5.7	5.4
1960–64	4,100	0.9	4.3	5.1	4.9
1965–69	6,100	1.3	6.2	7.9	7.3
1970	9,400	1.9	9.4	12.9	11.4
1971	11,200	2.2	11.1	14.8	12.9
1972	13,000	2.6	12.9	17.6	15.0
1973	16,500	3.3	16.2	23.3	18.9
1974	24,900	4.9	24.2	34.5	25.6
1975	27,900	5.5	27.0	40.2	28.7
1976	26,800	5.3	25.8	42.7	30.0
1977	25,700	5.0	24.4	41.3	29.2
1978[26]	23,700	4.7	22.3	38.9	28.0
1979	23,200	4.5	21.6	39.8	28.5
1980	23,300	4.6	21.4	42.9	30.0
1981	22,800	4.5	20.7	42.8	30.0
1982	21,500	4.2	19.3	42.0	29.6
1983	20,800	4.1	18.6	40.5	28.8
1984[27]	20,700	4.0	18.4	(40.0)	(28.6)
England and Wales[28]					
1961	14,300	0.3	1.6	1.7	1.7
1962	16,800	0.4	1.8	2.0	1.9
1963	16,600	0.4	1.8	1.9	1.9
1964	18,300	0.4	1.9	2.1	2.1
1965	19,500	0.4	2.1	2.3	2.2
1966	21,400	0.4	2.3	2.5	2.4
1967	27,200	0.6	2.9	3.3	3.2
Type of service					
NHS hospitals[29]					
1961	2,300	—	—	—	—
1962	2,800	—	—	—	—
1963	2,600	—	—	—	—
1964	3,300	—	—	—	—
1965	4,500	—	—	—	—
1966	6,400	—	—	—	—
1967	9,700	—	—	—	—
Private sector[29]					
1961	12,000	—	—	—	—
1962–63[25]	14,000	—	—	—	—
1964–66	15,000	—	—	—	—
1967	17,500	—	—	—	—
Under the 1967 Abortion Act					
1968[30,31]	23,600	—	—	—	—
1969	54,800	—	—	—	—
1970	86,600	—	—	—	—
1971	126,800	—	—	—	—
1972	159,900	—	—	—	—
1973	167,100	—	—	—	—
1974[32]	162,900	—	—	—	—
1975	139,700	—	—	—	—
1976	129,700	—	—	—	—
1977	133,000	—	—	—	—

[24] 1940–77: Denmark, 1978.

[25] Annual averages.

[26] 1978–83: Denmark, 1984.

[27] 1984: Council of Europe, 1985.

[28] 1961–67: Diggory and Simms, 1970. The figures for the private sector and, therefore, the totals as well, are estimates.

[29] Reported therapeutic abortions in National Health Service hospitals.

[30] 1968–73: United Kingdom, 1974b.

[31] Annualized rate and ratio computed from data for April 27–December 31, 1968.

[32] 1974–84: United Kingdom, 1985.

Area, year and characteristic	Number of abortions[1]	Abortion rate per 1,000	Abortion ratio per 100		
		Total population	Women 15–44	Live births[2]	Known pregnancies[3]
England and Wales (continued)					
1978	141,600	—	—	—	—
1979	149,700	—	—	—	—
1980	160,900	—	—	—	—
1981	162,500	—	—	—	—
1982	163,000	—	—	—	—
1983	162,200	—	—	—	—
1984	170,000	—	—	—	—
Residential status					
Residents					
1968[30,31]	22,300	0.7	3.5	4.0	3.9
1969	49,800	1.0	5.3	6.4	6.0
1970	76,000	1.6	8.1	9.6	8.7
1971	94,600	1.9	10.1	12.6	11.2
1972	108,600	2.2	11.5	15.8	13.6
1973	110,600	2.2	11.7	17.0	14.5
1974[32]	109,400	2.2	11.6	17.5	14.9
1975	106,200	2.2	11.2	17.9	15.2
1976	101,900	2.1	10.6	18.0	15.2
1977	102,700	2.1	10.6	17.8	15.1
1978	111,900	2.3	11.4	17.9	15.2
1979	120,600	2.5	12.1	18.6	15.7
1980	128,900	2.6	12.8	20.1	16.7
1981	128,600	2.6	12.4	20.5	17.0
1982	128,600	2.6	12.2	20.4	17.0
1983	127,400	2.6	12.1	20.3	16.9
1984	136,400	2.7	12.8	21.0	17.3
Nonresidents					
1968[30,31]	1,300	—	—	—	—
1969	5,000	—	—	—	—
1970	10,600	—	—	—	—
1971	32,200	—	—	—	—
1972	51,300	—	—	—	—
1973	56,600	—	—	—	—
1974[32]	53,500	—	—	—	—
1975	33,500	—	—	—	—
1976	27,800	—	—	—	—
1977	30,300	—	—	—	—
1978	29,700	—	—	—	—
1979	29,100	—	—	—	—
1980	32,000	—	—	—	—
1981	33,900	—	—	—	—
1982	34,500	—	—	—	—
1983	34,800	—	—	—	—
1984	33,600	—	—	—	—
Type of service (residents)[33]					
NHS hospitals					
1968[30,31]	14,500	—	—	—	—
1969	33,500	—	—	—	—
1970	47,400	—	—	—	—
1971	53,500	—	—	—	—
1972	56,900	—	—	—	—
1973	55,500	—	—	—	—
1974[32]	56,100	—	—	—	—
1975	50,900	—	—	—	—
1976	50,600	—	—	—	—
1977	52,500	—	—	—	—
1978	55,000	—	—	—	—
1979	55,600	—	—	—	—
1980	60,600	—	—	—	—
1981	61,100	—	—	—	—
1982	62,400	—	—	—	—
1983	62,600	—	—	—	—
1984	64,800	—	—	—	—

[33] Armed services hospitals are included with non-NHS premises in 1968–73 and with NHS hospitals in 1974.

Table 2 (continued)

Area, year and characteristic	Number of abortions[1]	Abortion rate per 1,000		Abortion ratio per 100	
		Total population	Women 15–44	Live births[2]	Known pregnancies[3]
England and Wales (continued)					
Non-NHS premises					
1968[30,31]	7,800	—	—	—	—
1969	16,300	—	—	—	—
1970	28,600	—	—	—	—
1971	41,100	—	—	—	—
1972	51,700	—	—	—	—
1973	55,100	—	—	—	—
1974[32]	53,400	—	—	—	—
1975	55,300	—	—	—	—
1976	51,300	—	—	—	—
1977	50,100	—	—	—	—
1978	56,800	—	—	—	—
1979	65,100	—	—	—	—
1980	68,300	—	—	—	—
1981	67,500	—	—	—	—
1982	66,100	—	—	—	—
1983	64,800	—	—	—	—
1984	71,600	—	—	—	—
Finland					
1951-55[25,34]	3,500	0.8	3.7	3.8	3.7
1956-60	5,200	1.2	5.7	6.7	6.3
1961-65	5,400	1.2	5.6	7.1	6.7
1966	5,200	1.1	5.1	6.8	6.4
1967	5,600	1.2	5.4	7.3	6.8
1968	6,300	1.3	6.0	9.0	8.2
1969	8,200	1.7	7.8	12.4	11.0
1970	14,800	3.2	13.8	24.1	19.4
1971	20,600	4.4	18.9	33.7	25.2
1972	22,100	4.8	20.4	38.4	27.8
1973	23,400	5.0	22.4	38.8	27.9
1974	22,800	4.9	21.8	36.2	26.6
1975	21,500	4.6	20.4	31.6	24.0
1976	19,800	4.2	18.6	30.0	23.1
1977	17,800	3.8	16.7	27.7	21.7
1978	16,900	3.6	15.8	26.5	20.9
1979	15,800	3.3	14.7	25.1	20.0
1980	15,000	3.2	13.9	24.0	19.3
1981	14,100	2.9	12.9	21.8	17.9
1982	13,900	2.9	12.6	20.8	17.2
1983[35]	13,400	2.8	12.1	20.2	16.8
France[36]					
1976	*134,200*	*2.5*	*12.3*	*18.3*	*15.5*
1977	*150,900*	*2.8*	*13.8*	*20.2*	*16.8*
1978	*150,400*	*2.8*	*13.6*	*20.3*	*16.9*
1979	*156,800*	*2.9*	*14.1*	*20.2*	*16.8*
1980	*171,200*	*3.2*	*15.3*	*21.2*	*17.5*
1981	*180,700*	*3.3*	*15.9*	*22.5*	*18.4*
1982	*181,100*	*3.3*	*15.8*	*23.5*	*19.1*
1983	*182,700*	*3.3*	*15.7*	*24.5*	*19.7*
1984	*177,000*[37]	*3.2*	*14.9*	*(23.3)*	*(18.9)*
German Democratic Republic[38]					
1950[39]	26,400	1.4	6.4	8.6	7.9
1951	5,000	0.3	1.2	1.6	1.6
1952	3,600	0.2	0.9	1.2	1.2
1953[40]	2,400	0.1	0.6	0.8	0.8
1954	1,700	0.1	0.4	0.6	0.6
1955	1,200	0.1	0.3	0.4	0.4
1956	1,000	0.1	0.3	0.4	0.4
1957	900	0.05	0.3	0.3	0.3
1958	900	0.05	0.3	0.3	0.3
1959	800	0.04	0.2	0.3	0.3
1960	800	0.04	0.2	0.3	0.3
1961	800	0.05	0.2	0.3	0.3
1962	700	0.04	0.2	0.3	0.3

[34] Finland, 1983.

[35] 1983: Data supplied by the National Board of Health in response to AGI questionnaire.

[36] France, 1985.

[37] Provisional.

[38] Includes East Berlin.

[39] 1950–52: Mehlan, 1958.

[40] 1953–62: Mehlan and Falkenthal, 1965.

Area, year and characteristic	Number of abortions[1]	Abortion rate per 1,000	Abortion ratio per 100		
		Total population	Women 15–44	Live births[2]	Known pregnancies[3]
German Democratic Republic (continued)					
1963[41]	na	na	0.5	0.5	0.5
1964	na	na	0.7	0.7	0.7
1965	na	na	3.6	3.7	3.6
1966	na	na	7.1	7.7	7.2
1967	na	na	7.2	8.4	7.7
1968	na	na	6.8	8.3	7.6
1969	na	na	6.1	7.9	7.4
1970	na	na	6.2	8.5	7.8
1971	na	na	6.4	9.6	8.8
1972	na	na	33.0	55.6	35.7
1972[42]	114,000	6.7	33.1	59.9	37.4
1973[43]	110,800	6.5	32.2	61.9	38.3
1974	99,700	5.9	28.8	55.3	35.6
1975	87,800	5.2	25.2	46.8	31.9
1976	81,900	4.9	23.3	39.2	28.2
1977[42]	80,100[44]	4.8	22.5	35.0	26.0
1978[45]	81,900	4.9	22.8	35.1	26.0
1979	86,500	5.2	23.9	36.0	26.5
1980	88,600	5.3	24.4	36.7	26.9
1981	90,300	5.4	24.8	37.8	27.4
1982	90,400	5.4	24.9	38.2	27.6
1983	92,500	5.5	25.6	40.1	28.6
1984	96,200	5.8	26.6	(42.2)	(29.7)
German Federal Republic[46]					
1950[47,48,49]	*9,500*	*0.2*	*0.8*	*1.2*	*1.2*
1951	*8,000*	*0.2*	*0.7*	*1.0*	*1.0*
1952	*6,500*	*0.1*	*0.6*	*0.8*	*0.8*
1954	*4,600*	*0.1*	*0.4*	*0.6*	*0.6*
1968[50]	*2,800*	*0.1*	*0.2*	*0.3*	*0.3*
1969	*3,400*	*0.1*	*0.3*	*0.4*	*0.4*
1970[51]	*4,900*	*0.1*	*0.4*	*0.6*	*0.6*
1971	*7,000*	*0.1*	*0.6*	*0.9*	*0.9*
1972	*9,800*	*0.2*	*0.8*	*1.5*	*1.5*
1973	*13,000*	*0.2*	*1.0*	*2.1*	*2.0*
1974	*17,800*	*0.3*	*1.4*	*2.9*	*2.8*
1975	*19,100*	*0.3*	*1.5*	*3.2*	*3.1*
1976[52,53]	*21,400*	*0.4*	*1.7*	*3.6*	*3.5*
1977	*54,300*	*0.9*	*4.1*	*9.3*	*8.5*
1978	*73,500*	*1.2*	*5.6*	*12.9*	*11.4*
1979	*82,800*	*1.4*	*6.2*	*13.8*	*12.1*
1980	*87,700*	*1.4*	*6.6*	*14.1*	*12.3*
1981	*87,500*	*1.4*	*6.5*	*14.2*	*12.4*
1982	*91,100*	*1.5*	*6.8*	*15.0*	*13.0*
1983	*86,500*	*1.4*	*6.4*	*14.7*	*12.8*
1984	*86,300*	*1.4*	*6.4*	*(14.9)*	*(12.9)*
Including residents of the Federal Republic obtaining abortions in the Netherlands and in England[32,54]					
1975	*83,500*	*1.4*	*6.6*	*13.9*	*12.2*
1977	*111,000*	*1.8*	*8.7*	*19.1*	*16.0*
1978	*118,800*	*1.9*	*9.2*	*20.8*	*17.2*
1979	*115,600*	*1.9*	*8.8*	*19.3*	*16.1*
1980	*114,500*	*1.9*	*8.7*	*18.5*	*15.6*
1981	*108,900*	*1.8*	*8.1*	*17.6*	*15.0*
1982	*109,300*	*1.8*	*8.1*	*18.0*	*15.3*
1983	*101,400*	*1.7*	*7.5*	*17.3*	*14.7*
1984	*97,900*	*1.6*	*7.3*	*(16.8)*	*(14.4)*
Greenland[55]					
1975	380	7.7	34.6	44.1	30.6
1976	360	7.2	32.6	40.4	28.8

[41] 1963–72: Mehlan, 1974. Data are for District Rostock only, which accounted for about five percent of the female population aged 15–44 and six percent of live births in the German Democratic Republic.

[42] German Federal Republic, 1980, p. 194.

[43] 1973–76: German Democratic Republic, 1977.

[44] Another secondary source gives 78,000 (Mehlan, 1979).

[45] 1978–84: Data supplied in response to AGI questionnaire.

[46] Includes West Berlin.

[47] Reporting incomplete.

[48] 1950–June 30, 1976: Applications approved.

[49] 1950–54: Heiss, 1967, pp. 70–71.

[50] 1968–69: Wolff, 1977.

[51] 1970–76: Christian and Grillmaier, 1980.

[52] 1977–84: German Federal Republic, 1985.

[53] For July 1, 1976 through 1984, data represent abortions performed.

[54] See footnotes 72–74.

[55] Nordic Council, 1985.

Table 2 (continued)

Area, year and characteristic	Number of abortions[1]	Abortion rate per 1,000	Abortion ratio per 100		
		Total population	Women 15–44	Live births[2]	Known pregnancies[3]
Greenland (continued)					
1980	470	9.4	39.9	45.2	31.1
1981	540	10.6	44.2	50.9	33.7
1982	560	10.8	44.4	54.6	35.3
1983	580	11.1	44.7	(58.9)	(37.1)
Hong Kong[56]					
1973	200	0.05	0.2	0.2	0.2
1974	600	0.1	0.6	0.7	0.7
1975	1,000	0.2	1.1	1.3	1.3
1976	2,200	0.5	2.3	2.7	2.6
1977	3,800	0.8	3.9	4.8	4.6
1978	5,500	1.2	5.4	6.7	6.3
1979	7,000	1.4	6.7	8.4	7.8
1980	9,400	1.9	8.7	11.0	9.9
1981	10,600	2.1	9.5	12.3	10.9
1982	12,200	2.3	10.3	14.5	12.7
1983	13,400	2.5	10.6	(16.3)	(14.0)
1984	14,500	2.7	11.3	(18.8)	(15.8)
Hungary					
1950[57]	1,700	0.2	0.8	0.9	0.9
1951	1,700	0.2	0.8	0.9	0.9
1952	1,700	0.2	0.8	0.9	0.9
1953	2,800	0.3	1.3	1.3	1.3
1954	16,300	1.7	7.5	7.5	7.0
1955	35,400	3.6	16.3	17.6	15.0
1956	82,500	8.4	38.3	46.4	31.7
1957[58]	123,400	12.6	58.0	74.4	42.6
1958	145,600	14.8	68.7	94.0	48.4
1959	152,400	15.3	72.1	102.3	50.6
1960	162,200	16.2	76.4	112.9	53.0
1961	170,000	17.0	79.4	126.7	55.9
1962	163,700	16.3	75.2	125.1	55.6
1963	173,800	17.2	78.4	131.6	56.8
1964	184,400	18.2	82.2	139.3	58.2
1965	180,300	17.8	80.0	132.8	57.0
1966	186,800	18.3	82.8	131.5	56.8
1967	187,500	18.4	83.1	121.3	54.8
1968	201,100	19.6	88.8	131.0	56.7
1969	206,800	20.1	90.6	133.8	57.2
1970	192,300	18.6	83.5	129.6	56.5
1971	187,400	18.1	81.1	124.2	55.4
1972	179,000	17.2	77.5	116.1	53.7
1973	169,600	16.3	73.5	102.4	50.6
1974	102,000	9.7	44.3	51.4	34.0
1975	96,200	9.1	41.9	51.5	34.0
1976[59]	94,700	8.9	41.5	51.9	34.2
1977	89,100	8.4	39.2	51.6	34.1
1978	83,500	7.8	37.0	51.2	33.9
1979	80,800	7.5	35.9	52.5	34.4
1980	80,900	7.6	36.3	55.1	35.5
1981	78,400	7.3	35.3	57.3	36.4
1982	78,700	7.4	35.5	60.6	37.7
1983	78,600	7.3	35.5	63.8	39.0
1984[60]	82,200	7.7	37.1	(69.1)	(40.9)
Iceland					
1970[61]	100	0.5	2.4	2.4	2.3
1971	140	0.7	3.3	3.2	3.1
1972	150	0.7	3.5	3.3	3.2
1973	220	1.1	5.1	5.0	4.8
1974	220	1.0	5.0	5.2	4.9
1975	310	1.4	6.7	7.1	6.6
1976	370	1.7	7.8	8.9	8.1

56. Data supplied by the Hong Kong Family Planning Association in response to AGI questionnaire.
57. 1950–56: Hirschler, 1961.
58. 1957–75: Hungary, 1977.
59. 1976–83: Hungary, 1984.
60. 1984: Data supplied in response to AGI questionnaire.
61. 1970–78: Iceland, 1979.

Area, year and characteristic	Number of abortions[1]	Abortion rate per 1,000		Abortion ratio per 100	
		Total population	Women 15–44	Live births[2]	Known pregnancies[3]
Iceland (continued)					
1977	450	2.0	9.3	11.0	9.9
1978	450	2.0	9.3	10.5	9.5
1979[62]	560	2.5	11.0	12.2	10.9
1980	520	2.3	10.1	11.6	10.4
1981	600	2.6	11.5	13.8	12.1
1982	610	2.6	11.7	14.1	2.3
1983	690	2.9	12.9	16.2	14.0
India[63]					
1972/73	*24,300*	*0.04*	*0.2*	*0.1*	*0.1*
1973/74	*44,800*	*0.1*	*0.4*	*0.2*	*0.2*
1974/75	*97,800*	*0.2*	*0.8*	*0.4*	*0.4*
1975/76	*214,200*	*0.4*	*1.7*	*1.0*	*1.0*
1976/77	*278,900*	*0.4*	*2.1*	*1.3*	*1.3*
1977/78	*247,000*	*0.4*	*1.8*	*1.2*	*1.1*
1978/79	*317,700*	*0.5*	*2.3*	*1.4*	*1.4*
1979/80	*360,800*	*0.5*	*2.5*	*1.6*	*1.6*
1980/81	*388,400*	*0.6*	*2.7*	*0.2*	*0.2*
Israel[64]					
1979	15,900	4.2	20.0	16.9	14.5
1980	14,700	3.8	17.9	15.7	13.6
1981	14,500	3.7	17.3	15.3	13.3
1982	16,800	4.2	19.8	17.3	14.7
1983	15,600	3.8	18.0	15.6	13.5
1984	18,900	4.6	21.9	(19.2)	(16.1)
Italy[65]					
1979	*187,600*	*3.3*	*15.9*	*28.9*	*22.4*
1980	*222,500*	*3.9*	*18.7*	*35.3*	*26.1*
1981	*224,100*	*3.9*	*18.7*	*36.3*	*26.6*
1982	*234,800*	*4.2*	*19.6*	*38.2*	*27.6*
1983	*234,000*	*4.1*	*19.5*	*39.3*	*28.2*
1984	*227,400*	*4.0*	*19.0*	*(38.8)*	*(28.0)*
Japan					
1950–54[25,66]	*827,400*	*9.7*	*40.7*	*41.4*	*29.3*
1955–59	*1,135,800*	*12.5*	*52.2*	*69.5*	*41.0*
1960–64[67]	*983,600*	*10.4*	*41.9*	*59.8*	*37.4*
1965–69	*780,200*	*7.8*	*30.3*	*43.3*	*30.0*
1970	*732,000*	*7.1*	*28.0*	*37.5*	*27.3*
1971	*739,700*	*7.1*	*28.2*	*36.4*	*26.7*
1972	*732,600*	*6.8*	*27.6*	*35.3*	*26.1*
1973	*700,500*	*6.4*	*26.3*	*34.0*	*25.4*
1974	*679,800*	*6.2*	*25.5*	*34.6*	*25.7*
1975	*671,000*	*6.0*	*25.2*	*35.3*	*26.1*
1976	*664,100*	*5.9*	*24.9*	*37.2*	*27.1*
1977	*641,200*	*5.6*	*24.1*	*35.4*	*26.1*
1978	*618,000*	*5.4*	*23.3*	*36.8*	*26.9*
1979	*613,700*	*5.3*	*23.1*	*37.8*	*27.4*
1980	*598,100*	*5.1*	*22.5*	*38.7*	*27.9*
1981	*596,600*	*5.1*	*22.6*	*39.5*	*28.3*
1982	*590,300*	*5.0*	*22.5*	*38.8*	*27.9*
1983[68]	*567,500*	*4.8*	*21.5*	*(37.3)*	*(27.2)*
1955[69,70]	*2,790,000*	*31.1*	*131.9*	*164.3*	*62.2*
1960	*3,150,000*	*33.5*	*138.1*	*197.2*	*66.3*
1965	*2,750,000*	*27.8*	*108.6*	*174.7*	*63.6*
1970	*2,780,000*	*26.6*	*104.9*	*142.5*	*58.8*
1975[71]	*2,250,000*	*20.1*	*84.2*	*120.5*	*54.7*
Netherlands[72]					
Residents					
1973	20,300	1.5	7.3	10.7	9.7

[62] 1979–83: Nordic Council, 1985.

[63] Abortions: India, 1984. Data represent abortions reported by the Ministry of Health and Family Welfare for fiscal years ending March 31. Births: Bhat et al., 1984, and U.S. Bureau of the Census, unpublished data.

[64] Data supplied by the Central Bureau of Statistics in response to AGI questionnaire.

[65] Italy, 1985.

[66] 1950–54: Muramatsu, 1967, pp. 68–79.

[67] 1955–82: Japan, 1983.

[68] 1983: Data supplied in response to AGI questionnaire.

[69] 1955–70: Muramatsu, 1973.

[70] 1955–75: Estimates of abortions to married women.

[71] Muramatsu, 1978. Data represent medium estimates.

[72] Ketting and Leliveld, 1982; Ketting and Leseman, 1986; and Ketting and Schnabel, 1980. Data represent estimates based on complete reports from abortion clinics supplemented by information obtained from hospitals through sample surveys in some years and estimates for other years.

Table 2 (continued)

Area, year and characteristic	Number of abortions[1]	Abortion rate per 1,000	Abortion ratio per 100		
		Total population	Women 15–44	Live births[2]	Known pregnancies[3]
Netherlands (continued)					
1974	17,600	1.3	6.2	9.3	8.5
1975	15,000	1.1	5.2	9.2	8.3
1976	14,800	1.1	5.0	8.5	7.8
1977[73]	16,100	1.2	5.4	9.2	8.4
1978	15,900	1.1	5.2	9.2	8.4
1979	17,600	1.3	5.6	10.0	9.1
1980	21,300	1.5	6.7	11.7	10.5
1981	21,100	1.5	6.5	12.0	10.7
1982	20,700	1.5	6.3	12.1	10.8
1983	19,500	1.4	5.9	11.3	10.1
1984	18,700	1.3	5.6	(10.7)	(9.7)
Nonresidents[74]					
1975	84,000	—	—	—	—
1976	74,000	—	—	—	—
1977	68,500	—	—	—	—
1978	52,000	—	—	—	—
1979	41,400	—	—	—	—
1980	36,700	—	—	—	—
1981	32,800	—	—	—	—
1982	29,600	—	—	—	—
1983	27,000	—	—	—	—
1984	24,500	—	—	—	—
Country of Residence					
German Federal Republic	11,300	—	—	—	—
Belgium/Luxembourg	4,900	—	—	—	—
Spain	7,300	—	—	—	—
Other countries	1,000	—	—	—	—
New Zealand[75]					
1976	4,700	1.5	7.1	8.5	7.9
1977	5,400	1.7	8.1	10.4	9.4
1978	2,100	0.7	3.1	4.0	3.9
1979	3,700	1.2	5.3	7.2	6.7
1980	5,900	1.9	8.6	11.7	10.5
1981	6,800	2.2	9.6	13.6	12.0
1982	6,900	2.2	9.6	13.7	12.1
1983	7,200	2.3	9.8	14.1	12.4
1984	7,300	2.2	9.7	(14.1)	(12.4)
Norway					
1968[76,77]	5,300	1.4	7.3	7.8	7.2
1969	6,500	1.7	8.9	9.8	8.9
1970	7,900	2.0	10.9	12.2	10.9
1971	10,400	2.7	14.1	15.9	13.7
1972	12,200	3.1	16.4	19.3	16.2
1973	13,700	3.5	18.2	22.6	18.5
1974	15,200	3.8	20.0	26.3	20.8
1975	15,100	3.8	19.7	27.7	21.7
1976	14,800	3.7	18.9	28.2	22.0
1977	15,500	3.8	19.6	30.5	23.3
1978	14,800	3.6	18.4	28.4	22.2
1979[78]	14,500	3.5	17.7	28.3	22.0
1980	13,500	3.3	16.3	26.2	21.0
1981[79]	13,800	3.4	16.4	27.1	21.3
1982	13,500	3.3	15.8	26.7	21.1
1983	13,600	3.3	15.7	27.3	21.4
1984	14,100	3.4	15.9	(28.1)	(21.9)
Poland[80,81,82]					
1965	*168,600*	*5.4*	*24.3*	*31.2*	*23.8*
1966	*158,000*	*5.0*	*22.4*	*30.0*	*23.1*
1967	*155,000*	*4.9*	*21.6*	*29.9*	*23.0*
1968	*153,600*	*4.8*	*21.0*	*28.9*	*22.4*
1969	*148,800*	*4.6*	*20.0*	*27.7*	*21.7*
1970	*148,400*	*4.6*	*20.0*	*26.8*	*21.1*
1971	*135,000*	*4.1*	*18.0*	*23.7*	*19.2*

[73] 1977–84: Data include menstrual regulations.

[74] Partly estimated.

[75] Data supplied by the New Zealand Abortion Supervisory Committee and the Department of Statistics in response to AGI questionnaire. See also Sceats, 1985.

[76] 1968–80: Norway, 1982.

[77] 1968–78: Applications approved.

[78] 1979–84: Abortions performed.

[79] 1981–84: Data supplied by the Central Bureau of Statistics in response to AGI questionnaire.

[80] Includes abortions in hospitals and clinics. Excludes abortions in physicians' offices, which are believed to be very numerous.

[81] Numbers of abortions in the UN *Demographic Yearbook* for 1973–78 include "other abortions" (women admitted to hospitals for treatment of complications of spontaneous or illegal induced abortions) and, therefore, differ from the numbers shown here.

[82] Poland, 1985.

Area, year and characteristic	Number of abortions[1]	Abortion rate per 1,000	Abortion ratio per 100		
		Total population	Women 15–44	Live births[2]	Known pregnancies[3]
Poland (continued)					
1972	*135,300*	*4.1*	*17.8*	*23.0*	*18.7*
1973	*138,600*	*4.2*	*18.0*	*22.7*	*18.5*
1974	*142,400*	*4.2*	*18.2*	*22.5*	*18.4*
1975	*138,600*	*4.1*	*17.5*	*21.5*	*17.7*
1976	*140,900*	*4.1*	*17.8*	*21.1*	*17.5*
1977	*143,500*	*4.1*	*18.1*	*21.6*	*17.8*
1978	*145,600*	*4.2*	*18.3*	*21.5*	*17.7*
1979	*146,600*	*4.2*	*18.4*	*21.2*	*17.5*
1980	*132,600*	*3.7*	*16.6*	*19.3*	*16.2*
1981	*132,900*	*3.7*	*16.6*	*19.3*	*16.1*
1982	*139,000*	*3.8*	*17.3*	*19.5*	*16.3*
1983	*131,000*	*3.6*	*16.3*	*18.5*	*15.6*
1984	*133,000*	*3.6*	*16.5*	*(19.0)*	*(16.0)*
Romania[83]					
1959[84]	*578,000*	*31.8*	*139.1*	*160.6*	*61.6*
1960	*774,000*	*42.1*	*186.1*	*229.0*	*69.6*
1961	*865,000*	*46.7*	*205.4*	*276.4*	*73.4*
1962	*967,000*	*51.8*	*226.9*	*324.5*	*76.4*
1963	*1,037,000*	*55.2*	*240.4*	*356.4*	*78.1*
1964	*1,100,000*	*58.2*	*251.9*	*387.3*	*79.5*
1965	*1,115,000*	*58.6*	*252.3*	*408.4*	*80.3*
1966	*973,000*	*50.5*	*218.7*	*305.0*	*75.3*
1967	*206,000*	*10.6*	*46.0*	*33.3*	*25.0*
1968	*220,000*	*11.1*	*48.8*	*44.7*	*30.9*
1969	*258,000*	*12.9*	*56.9*	*58.0*	*36.7*
1970	*292,000*	*14.4*	*63.9*	*70.9*	*41.5*
1971	*330,000*	*16.2*	*71.9*	*83.8*	*45.6*
1972	*381,000*	*18.5*	*82.7*	*99.2*	*49.8*
1973	*376,000*	*18.1*	*81.3*	*93.1*	*48.2*
1974[85]	*335,000*	*15.9*	*72.0*	*79.1*	*44.2*
1975	*359,000*	*16.9*	*77.1*	*86.0*	*46.3*
1976	*383,000*	*17.9*	*82.6*	*91.1*	*47.7*
1977	*379,000*	*17.5*	*82.0*	*90.2*	*47.4*
1978	*394,000*	*18.0*	*85.6*	*95.6*	*48.9*
1979	*404,000*	*18.3*	*88.1*	*100.1*	*50.0*
1983[86]	*421,400*	*18.7*	*90.9*	*(131.1)*	*(56.7)*
Scotland					
1968[31,87]	1,500	0.3	1.5	1.7	1.6
1969	3,500	0.7	3.6	4.0	3.8
1970	5,300	1.0	5.2	6.0	5.7
1971	6,300	1.2	6.3	7.5	7.0
1972	7,600	1.5	7.5	9.7	8.8
1973	7,500	1.4	7.4	10.4	9.4
1974	7,600	1.4	7.4	11.0	9.9
1975	7,300	1.4	7.1	10.8	9.7
1976	7,200	1.4	6.9	11.6	10.4
1977	7,300	1.4	7.0	11.6	10.4
1978	7,500	1.4	7.0	11.2	10.0
1979	7,800	1.5	7.3	11.4	10.2
1980	7,900	1.5	7.3	11.4	10.2
1981[88]	9,000	1.7	8.3	13.4	11.8
1982	8,400	1.6	7.6	12.8	11.3
1983	8,400	1.6	7.6	12.9	11.4
1984	9,100	1.8	8.2	(14.0)	(12.3)
Including residents of Scotland obtaining abortions in England[89]					
1968	1,600	0.3	1.6	1.1	1.1
1969	3,700	0.7	3.7	4.2	4.0
1970	5,600	1.1	5.5	6.4	6.0
1971	6,900	1.3	6.8	8.3	7.7
1972	8,400	1.6	8.3	11.0	9.9
1973	8,600	1.6	8.4	11.9	10.6
1974	8,600	1.6	8.4	12.5	11.1

[83] Includes legal abortions and women admitted to hospitals for treatment of complications of spontaneous or illegal induced abortions.

[84] 1959–73: Ceterchi et al., 1975, p. 52.

[85] 1974–79: Romania, 1980.

[86] Terminated pregnancies (Romania, 1984).

[87] 1968–80: United Kingdom, 1982c.

[88] 1981–84: Data supplied by the Scottish Health Service in response to AGI questionnaire.

[89] United Kingdom, 1974a, Vol. 2, p. 204; 1974b; 1978a; 1985.

Table 2 (continued)

Area, year and characteristic	Number of abortions[1]	Abortion rate per 1,000		Abortion ratio per 100	
		Total population	Women 15–44	Live births[2]	Known pregnancies[3]
Scotland (continued)					
1975	8,400	1.6	8.1	12.4	11.0
1976	8,100	1.6	7.8	13.1	11.5
1977	8,200	1.6	7.8	13.0	11.5
1978	8,400	1.6	8.0	12.6	11.2
1979	8,800	1.7	8.2	12.9	11.4
1980	9,100	1.8	8.4	13.1	11.6
1981	10,000	1.9	9.2	14.9	13.0
1982	9,300	1.8	8.4	14.1	12.4
1983	9,200	1.8	8.3	14.1	12.4
1984	9,400	1.9	8.9	(15.2)	(13.2)
Singapore[90]					
1970	*1,900*	*0.9*	*4.1*	*4.2*	*4.1*
1971	*3,400*	*1.6*	*7.2*	*6.9*	*6.5*
1972	*3,800*	*1.8*	*7.7*	*7.5*	*7.0*
1973	*5,300*	*2.4*	*10.4*	*11.5*	*10.3*
1974	*7,200*	*3.2*	*13.6*	*17.2*	*14.6*
1975	*12,900*	*5.7*	*23.5*	*31.9*	*24.2*
1976	*15,500*	*6.8*	*27.5*	*37.7*	*27.4*
1977	*16,400*	*7.1*	*28.3*	*42.8*	*30.0*
1978	*17,200*	*7.4*	*28.9*	*42.8*	*30.0*
1979	*17,000*	*7.2*	*27.7*	*41.8*	*29.5*
1980	*18,200*	*7.5*	*28.4*	*43.4*	*30.3*
1981	*18,900*	*7.7*	*28.8*	*44.5*	*30.8*
1982	*19,100*	*7.7*	*28.6*	*44.8*	*30.9*
1983	*19,100*	*7.6*	*28.1*	*(47.1)*	*(32.0)*
South Africa[91]					
1981	400	0.01	0.1	0.1	0.1
1982	500	0.02	0.1	0.1	0.1
Ethnic group (1981–82)					
White	600	na	na	na	na
All other	300	na	na	na	na
Including residents of South Africa obtaining abortions in England[92]					
1981	900	0.03	0.1	0.1	0.1
1982	1,000	0.03	0.2	0.1	0.1
Sweden					
1939–43[25,93]	500	0.1	0.4	0.5	0.5
1944–48	2,600	0.4	1.7	2.4	2.4
1949–53[94]	5,600	0.8	3.7	4.9	4.7
1954–58	4,200	0.6	2.9	3.9	3.8
1959–63	3,100	0.4	2.1	2.9	2.8
1964–68	7,800	1.0	5.2	7.1	6.7
1969	13,700	1.7	8.8	12.8	11.3
1970	16,100	2.0	10.2	14.3	12.5
1971	19,300	2.4	12.2	17.1	14.6
1972	24,200	3.0	15.2	21.8	17.9
1973	26,000	3.2	16.3	23.7	19.2
1974	30,600	3.8	19.2	28.4	22.1
1975	32,500	4.0	20.2	32.5	24.5
1976	32,400	3.9	20.0	33.4	25.1
1977	31,500	3.8	19.3	33.2	24.9
1978	31,900	3.9	19.4	33.8	25.2
1979	34,700	4.2	20.9	35.7	26.3
1980	34,900	4.2	20.7	36.9	27.0
1981	33,300	4.0	19.6	35.7	26.3
1982	32,600	3.9	19.0	35.3	26.1
1983	31,000	3.7	17.9	33.4	25.0
1984	30,800	3.7	17.7	(32.8)	(24.7)
Tunisia[95]					
1966[96]	1,400	0.3	1.5	0.6	0.6
1967	1,300	0.3	1.4	0.6	0.6

90. Data supplied by the National Family Planning Centre in response to AGI questionnaire. Includes the private sector. See also Chen, 1985.

91. South Africa, 1983. Reporting years ending November 30.

92. United Kingdom, 1985.

93. 1939–50: Sweden, 1973.

94. 1951–84: Sweden, 1985.

95. "Social" abortions performed under the National Family Planning Program.

96. 1966–72: Behir and Charfeddine, 1978, pp. 96–106.

Area, year and characteristic	Number of abortions[1]	Abortion rate per 1,000		Abortion ratio per 100	
		Total population	Women 15–44	Live births[2]	Known pregnancies[3]
Tunisia (continued)					
1968	2,200	0.5	2.4	1.0	1.0
1969	2,900	0.6	2.9	1.3	1.3
1970	2,700	0.5	2.7	1.4	1.4
1971	3,200	0.6	3.0	1.6	1.6
1972	4,600	0.8	4.2	2.3	2.3
1973[97]	6,500	1.2	6.0	3.3	3.2
1974	12,400	2.2	10.9	6.2	5.9
1975	16,000	2.8	13.7	7.7	7.2
1976	20,300	3.5	17.1	9.5	8.7
1977	21,200	3.6	17.2	9.9	9.0
1978	21,000	3.5	16.5	9.9	9.0
1979	19,200	3.1	14.6	8.7	8.0
1980[98]	20,500	3.2	15.1	9.1	8.4
1981	20,700	3.2	15.0	9.3	8.5
1982	21,000	3.1	14.7	9.6	8.8
1983	20,300	3.0	13.8	9.2	8.4
1984	20,900	3.0	13.7	9.4	8.6
1985[99]	21,300	3.0	13.6	(9.7)	(8.9)
USSR[100]					
1960[101]	*8,500,000*	*40*	*170*	*160*	*62*
1965[102]	*11,700,000*	*50*	*220*	*275*	*73*
1970[103]	*10,000,000*	*41*	*180*	*230*	*70*
1982[104]	*11,000,000*	*40*	*181*	*208*	*68*
United States					
1963[105]	*5,000*	*0.03*	*0.1*	*0.1*	*0.1*
1964	*9,000*	*0.05*	*0.2*	*0.2*	*0.2*
1965	*7,000*	*0.04*	*0.2*	*0.2*	*0.2*
1966	*6,000*	*0.03*	*0.2*	*0.2*	*0.2*
1967	*9,000*	*0.05*	*0.2*	*0.3*	*0.3*
1968	*18,000*	*0.1*	*0.4*	*0.5*	*0.5*
Abortions reported to the CDC					
1970[106]	193,500	0.9	4.5	5.2	5.0
1971	485,800	2.3	11.1	14.3	12.5
1972	586,800	2.8	13.2	18.4	15.5
1973	615,800	2.9	13.5	19.8	16.5
1974	763,500	3.6	16.4	24.0	19.3
1975	854,900	4.0	18.0	27.3	21.5
1976	988,300	4.5	20.3	30.3	23.2
1977	1,079,400	4.9	21.7	32.7	24.7
1978	1,157,800	5.2	22.7	34.2	25.5
1979	1,251,900	5.6	24.1	35.3	26.1
1980	1,297,600	5.7	24.5	35.8	26.3
1981	1,300,800	5.7	24.2	35.5	26.2
1982[107]	1,304,000	5.6	23.9	35.4	26.2
Abortions reported to the AGI					
1973[108]	744,600	3.5	16.3	23.9	19.3
1974	898,600	4.2	19.3	28.2	22.0
1975	1,034,200	4.8	21.7	33.1	24.9
1976	1,179,300	5.4	24.2	36.1	26.5
1977	1,316,700	6.0	26.5	40.0	28.6
1978	1,409,600	6.3	27.7	41.3	29.2
1979	1,497,700	6.7	28.8	42.0	29.6
1980	1,553,900	6.8	29.3	42.8	30.0
1981	1,577,300	6.9	29.3	43.0	30.1
1982	1,573,900	6.8	28.8	42.8	30.0
1983[109]	1,515,000	6.5	27.4	41.6	29.4
Vietnam[110]					
1975	*52,000*	*1.1*	*5.0*	*2.9*	*2.8*
1976	*51,000*	*1.0*	*4.8*	*2.8*	*2.7*

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[97] 1973–79: Tunisia, 1979.

[98] 1980–84: Alaoui, 1985.

[99] 1985: Data supplied to F. Coeytaux by the Office National de la Famille et de la Population.

[100] May include women admitted to hospitals for aftercare or the treatment of complications of spontaneous or illegal induced abortions.

[101] 1960 and 1965: Serenko, 1969, pp. 34–35. Abortion ratios per birth are given in source; other entries were derived.

[102] Average of minimum and maximum estimates (2.5 and 3.0 abortions per birth).

[103] IPPF, 1974. Estimate.

[104] Bednyi, 1984, p. 111. Abortion ratio per birth is given in source; other entries were derived.

[105] Tietze, 1970. 1963–68: Estimates based on survey of hospitals.

[106] 1971–81: United States, 1985a.

[107] 1982: United States, 1986c.

[108] 1973–82: Henshaw and Blaine, 1985. Estimates of the characteristics of women obtaining abortions are based on the number of abortions reported to the AGI and distributed by ethnic group reported by the CDC.

[109] Henshaw, 1986.

[110] Banister, 1985, p. 19.

Table 2 (continued)

Area, year and characteristic	Number of abortions[1]	Abortion rate per 1,000	Abortion ratio per 100		
		Total population	Women 15–44	Live births[2]	Known pregnancies[3]
Vietnam (continued)					
1977	*85,000*	*1.7*	*7.8*	*4.6*	*4.4*
1978	*126,600*	*2.5*	*11.3*	*6.7*	*6.3*
1979	*161,800*	*3.1*	*14.2*	*8.5*	*7.8*
1980	*170,600*	*3.2*	*14.6*	*8.8*	*8.1*
Yugoslavia					
1966[111,112]	219,700	11.2	47.7	55.7	35.8
1967	242,100	12.2	52.1	62.7	38.5
1968	245,800	12.3	52.5	69.7	41.1
1969	253,500	12.6	53.6	68.0	40.5
1970	254,400	12.5	53.4	68.9	40.8
1971	261,000	12.7	54.4	69.0	40.8
1972[113]	267,700	12.9	55.4	70.5	41.3
1975	293,200	13.7	59.5	75.4	43.0
1978	325,200	15.3	67.3	88.3	46.9
1980	356,400	16.0	71.4	94.0	48.4
1983	371,700	16.3	73.5	98.4	49.6
1984	384,800	16.8	75.7	(102.2)	(50.5)
Excluding spontaneous and illegal abortions					
1984	358,300	15.6	70.5	(95.2)	(48.8)

pregnancy, and more legal abortions were performed (Tietze, 1970). This trend accelerated after the passage of more liberal abortion laws in some states later in the decade. Because New York State, mainly New York City, and several other areas made legal abortion available to nonresidents, the total number of terminations in the United States increased from an estimated 50,000 in 1969 to around 200,000 in 1970 and 600,000 in 1972, even before the Supreme Court decisions that legalized abortion nationally in 1973.

In the first years after 1973, the number of legal abortions in the United States, as ascertained by The Alan Guttmacher Institute (AGI) in its nationwide surveys of providers of abortion services, continued to increase substantially. A rise of 21 percent in 1974 was followed by smaller increases in succeeding years, as abortion services became more available. By around 1977, the growth in abortion facilities was nearly completed, and much of the continued slow increase in the abortion rate—five percent in 1978, four percent in 1979 and two percent in 1980—was probably due to increasing rates of unintended pregnancy. The abortion rate peaked at 29.3 per 1,000 women aged 15–44 in 1980 and 1981, and then fell to 27.4, in 1983. Preliminary estimates suggest that the rate fell further, to 26.9, in 1984 (Henshaw, 1986). The number of abortions reached almost 1.6 million in 1981 and fell to about 1.5 million in 1983.

The number of reported abortions includes those obtained by residents of other countries. It is estimated that in 1981, some 5,000 were obtained by women from Canada, 5,600 by Mexican women and about 400 by women from other countries, mainly in the Caribbean area (Henshaw et al., 1985b). Because some patients prefer to give local addresses, these estimates may be too low.

The number of abortions reported by the Centers for Disease Control (CDC) has ranged from 15 to 18 percent lower than the number ascertained by the AGI. The reason for the discrepancy is that the CDC obtains most of its data from state health departments rather than by active outreach, as does the AGI. A number of states do not require reporting of abortions, some require reporting only from cer-

[111] Includes legal abortions and women admitted to hospitals for treatment of complications of spontaneous or illegal induced abortions.

[112] 1966–71: Lalović, 1980.

[113] 1972–84: Yugoslavia, 1986.

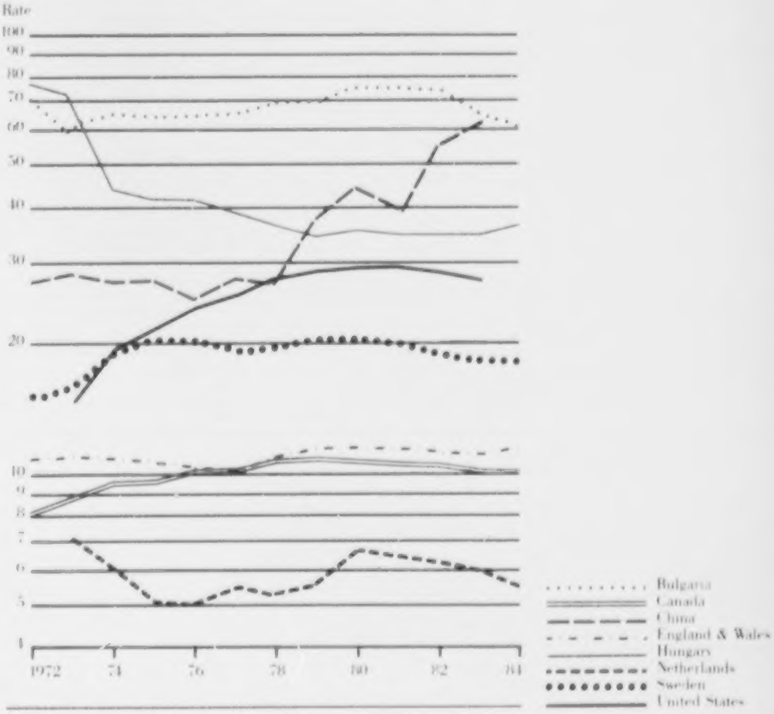
tain types of facilities, and some are lax in enforcing reporting requirements.

The abortion ratio rose to about 30 per 100 known pregnancies in 1979–82, excluding pregnancies ending in spontaneous fetal death. In 1983, the ratio was about 29 per 100. According to data from the 1982 National Survey of Family Growth, about 37 percent of the births in the five-year period 1978–82 were unintended at the time of conception (United States, 1986a). Therefore, about 1.35 million births in 1982 were unintended, and 56 percent of unwanted or mistimed pregnancies were terminated by abortion.

It is difficult to assess the impact that the Hyde Amendment restrictions on public funding for abortion has had on the number of abortions performed. Estimates have been made for the fiscal year (FY) 1978.[2] Of all women eligible for the medical assistance program (Medicaid) who obtained abortions in FY 1977, about 250,000 (roughly 85 percent) lived in states continuing to pay for these services, while 45,000 lived in states where public funding became unavailable in FY 1978. However, the number of abortions funded by Medicaid declined to about 194,000 in states that still provided funds, probably because of widespread confusion among pregnant women and among providers of abortion services concerning the availability of Medicaid funding. On the basis of the experiences of Georgia, Ohio (Trussell et al., 1980) and Texas (United States, 1980), it has been estimated that nationwide, 84,000 women who could not obtain Medicaid-funded abortions in FY 1978 were able to obtain legal abortions in the private sector, that 14,000 gave birth and that fewer than 3,000 had self-induced or illegal abortions (Cates, 1981). Since 1978, the number of publicly funded abortions has remained at about 200,000 a year.

Around two-fifths of all legal abortions obtained in the United States in 1971 were performed outside the state of the woman's permanent residence. By 1981, the share of out-of-state abortions had declined to about six percent (Henshaw et al., 1985b). However, many women obtaining abortions had to travel, often considerable distances, to other communities within their state of residence.

Figure 3. Legal abortion rate per 1,000 women aged 15–44: Selected areas, 1972–84 (Semilog scale)



Illegal abortion was widely and almost openly used in the 19th century, especially between 1840 and 1860 (Mohr, 1978). Although the numbers of illegal abortions and the abortion ratios per 100 pregnancies were probably lower than the corresponding statistics for legal abortions in the mid-1970s, the abortion rates per 1,000 women of reproductive age may well have been higher. Of the numerous estimates of the incidence of illegal abortion for the post–World War II period, one of the most widely quoted was made in 1957 by a committee that "a plausible estimate of the frequency of induced abortion in the United States could be as low as 200,000 and as high as 1,200,000 per year. There is no objective basis for the selection of a particular figure between these two estimates as an approximation of the actual frequency" (Calderone,

[2] The fiscal year of the United States extends from October through September; it is identified by the calendar year in which it ends.

1958, p. 180). In spite of this admonition, a round figure of one million abortions per year gained wide acceptance during the 1960s. The results of a later survey in North Carolina, using the randomized response technique, and a retrospective estimate based on the numbers of legal abortions and births in New York City during the period 1970–72 are compatible with the figure of one million (Abernathy et al., 1970; Tietze, 1973).

The number of illegal abortions probably declined during the 1960s as more effective contraceptive methods were used and surgical sterilization became increasingly available and acceptable. The decline was accelerated by the progressive liberalization of abortion laws, especially from 1970 onward, as reflected in a precipitous drop in the number of deaths attributed to illegal abortions (see Table 22 and Figure 16).

In *Canada*, where a restrictive abortion law was liberalized in 1969, the rates and ratios of legal abortions reported for 1970–84 remained substantially below the corresponding values for the United States. Around 10,000 Canadian women are known to have obtained legal abortions in the United States in 1975; by 1981, their number appears to have dropped to about 5,000. Abortions performed in Quebec outside of hospitals with therapeutic abortion committees are not included in the Statistics Canada figures shown in Table 2. In 1980, the provincial government funded 5,500 more abortions than were reported to Statistics Canada; in 1982, the number was 6,200 (Quebec, 1983). These numbers do not include women from other areas, primarily the maritime provinces, who came to Quebec for abortion services.

Latin America

Cuba is the only country in Latin America where abortions are performed in large numbers within the framework of the official health services. By 1974, the general abortion rate approached 70 per 1,000 women aged 15–44.[3] From 1974 to 1981, the abortion rate declined by 31 percent and the fertility rate fell by 44 percent, suggesting increasing use of contraceptives. The abortion rate and fertility rate both jumped about 15 percent in 1982, evidently because of a large increase in the number of teenagers (David, 1983), and remained at the higher level in 1983 and 1984.

The incidence of illegal abortion in other Latin American countries is believed to be high and increasing, especially in urban areas (Gaslonde, 1976). The results of studies by Latin American investigators who have tried to quantify the incidence have not been included in this report because they are not comparable with data for other countries. While in some surveys attempts were made to separate induced from spontaneous abortions, the validity of the data is doubtful. The estimates published by the International Planned Parenthood Federation in 1974 suggest a total of close to five million illegal abortions per year for the entire region, corresponding to an abortion rate of at least 65 per 1,000 women aged 15–44 and an abortion ratio of almost 30 per 100 known pregnancies. Rates and ratios are doubtless higher in the larger cities. Hospitalization rates for complications of abortion on the order of 40 per 1,000 women of reproductive age have been reported from Mexico City (Ordoñez, 1975) and Santiago, Chile (Viel, 1975). This rate probably underestimates the abortion rate, because although some women were hospitalized following spontaneous abortions, the numbers of induced abortions not requiring inpatient care may have been much greater. An annual rate of 100 illegal abortions per 1,000 women aged 15–44 in the late 1960s and early 1970s appears to be realistic at least for Santiago, where the birthrate was lower than that in Mexico City.

Western Europe

Nordic Countries

Trends of legal abortions in the Nordic countries have followed a common pattern with minor variations. After the enactment of the first liberalized *Swedish* abortion law in 1938, the rate of legal abortions increased, from 0.4 per 1,000 women aged 15–44 during the period 1939–43 to 3.7 per

[3] In the text, rates and ratios over 50 are rounded to the nearest whole number to reflect the probable degree of error in the data. Rates and ratios under 50 are also rounded when they are based on inaccurate data.

1,000 a decade later. Subsequently, the trend was reversed and the rate dropped below 2.5 per 1,000 for several years; the upward trend was resumed in 1962, and in 1974, the rate reached 19.2 per 1,000. Authorization of abortion on request in 1975 brought only a minor increase, to 20.2 per 1,000. Developments in *Denmark* were similar to those in Sweden, with higher rates in Denmark than in Sweden until 1967, and lower rates during subsequent years. After the legalization of abortion on request in late 1973, however, the abortion rate increased by one-half, overtaking that of Sweden. Marked increases in abortion rates have also been reported in *Norway* and, especially, *Finland*, where they almost quadrupled between 1968 and 1973. In 1974 in Finland, in 1975 in Norway, and in 1976 in Denmark, numbers of abortions and abortion rates began to decline substantially. In Sweden, there were only minor fluctuations in the abortion rate between 1975 and 1980; since 1980, the rate has dropped three points, or 14 percent.

The abortion rate and ratio in *Iceland* increased markedly during the 1970s and early 1980s, but they are still lower than those of the other countries of northern Europe. *Greenland*, politically associated with Denmark, has a high abortion rate — almost 45 per 1,000 women in 1983. The abortion ratio was only 37 per 100 known pregnancies, reflecting a relatively high birthrate.

Great Britain

In Great Britain, the attitudes and practices of the medical profession were basically conservative during the 1960s, especially with regard to nonprivate patients. About 2,300 abortions were reported by National Health Service (NHS) hospitals in *England and Wales* in 1961, about 3,300 in 1964 and 9,700 in 1967. The total number of legal abortions, including those reported from NHS hospitals and an estimate of the number performed in the private sector, almost doubled from 14,300 in 1961 to 27,200 in 1967. In the latter year, the rate and ratio of legal abortions in England and Wales were about 10 times as high as the corresponding figures estimated for the United States. They were also roughly equal to the rate and ratio in Sweden three or four years earlier, with the important difference that almost two-thirds of legal abortions in England and Wales were done in the private sector and had to be paid for, whereas in Sweden, all were done in public hospitals free of charge.

In England and Wales, the number of legal abortions performed on resident women under the provisions of the Abortion Act of 1967 increased from 37,400 during the first 12 months (May 1968–April 1969) to 110,600 in 1973. From then until 1976, the number of abortions declined to about 102,000; this decline was followed by annual rises, to 129,000 in 1980. Although about one-fourth of the increment reflected a larger number of women of reproductive age and changes in distribution by age and marital status within the 15–44 age range, a pill scare in late 1976 appears to have been the major factor (Bone, 1982). In 1981, the increase came to a halt, and the abortion rate has since stabilized. Both rates and ratios are substantially lower in England and Wales than in the United States or in some of the countries of northern and Eastern Europe. The comparable figures for *Scotland* are about one-fourth to one-third lower than those for England and Wales. About eight percent of all Scottish women seeking legal abortions in 1984 obtained them in England. Abortion services in England are used by substantial numbers of women from other countries — about 33,600 in 1984.

Other Western European Countries

While the abortion rate for residents of the *Netherlands* is the lowest among all countries with wide access to pregnancy termination and reliable statistics, it increased significantly in 1980, apparently because of a pill scare resulting from a television program in September 1979 (Ketting, 1981). Since 1980, the rate has gradually fallen back to its 1979 level. In *Belgium*, an illegal network of about a dozen nonprofit abortion clinics operates in Brussels and in the Walloon area, but not in Flanders (Ketting and Leliveld, 1982; Vekemans and

Dohmen, 1982). In 1984, about 4,900 Belgian women, mainly from Flanders, obtained abortions in the Netherlands (Ketting and Leseman, 1986).

Substantial numbers of legal abortions are performed in Austria, France, the German Federal Republic and Italy—whose laws were liberalized during 1975–78. No statistics are collected in *Austria*, and only limited data, which are not sufficient to show any trend, have been obtained for France and the German Federal Republic, where reporting is believed to be grossly incomplete. In *France*, according to one estimate, the actual number of legal abortions in 1976 was on the order of 250,000, or almost twice the number reported (Blayo, 1979). This number of abortions in 1984 would mean an abortion rate of 21 per 1,000 women of reproductive age. The number of reported abortions increased between 1976 and 1983, but the increase has been attributed to more complete reporting (Blayo, 1985). In the *German Federal Republic*, according to a study in Munich, only 50 percent of all legal abortions are reported to the Central Statistical Office (Hickl, 1980). In 1981, only 2,712 abortions were reported from Berlin to this office, although 11,000 had been reported to the local municipal authorities (German Federal Republic, 1982). Research in Vienna has indicated that probably about 5,000 German women per year obtain abortions there (Ketting and van Praag, 1985). The total number of abortions obtained by German women in the Federal Republic and abroad has been estimated to have been at least 260,000 in 1981, or 20 per 1,000 women aged 15–44 (Ketting and van Praag, 1985).

In *Italy*, 227,000 legal abortions were reported in 1984, with substantially higher rates and ratios in the northern and central regions than in the southern and island regions. In view of the low birthrate and the inadequacies of contraceptive services and practices in Italy, many legal abortions certainly are not reported, and even more are performed in illegal settings. There were an estimated 99,000 illegal and unreported abortions in 1983, most in the southern region (Italy, 1985). Including those, the 1983 abortion rate would be about 28 per 1,000 women aged 15–44. Abortion statistics are collected in some of the cantons of *Switzerland* but not in others. On the basis of available statistics, it has been estimated that there were 15,000 abortions in Switzerland in 1981. This number yields a rate of 11 per 1,000 women aged 15–44 and a ratio of 17 per 100 known pregnancies. The data suggest that the number of abortions obtained by Swiss women in Switzerland has changed little since 1975 (Gloor et al., 1985).

Eastern and Central Europe

The liberalization of abortion laws in most countries of Eastern Europe during the 1950s resulted in spectacular increases in the incidence of legal abortion during the years that followed, reflecting the replacement of unwanted births by abortions and of illegal abortions by legal abortions. The most comprehensive and reliable information is available for Hungary and Czechoslovakia.

In *Hungary*, boards for the authorization of abortion were established in the early 1950s. The increasing numbers of legal abortions since 1953 indicate the progressive liberalization of the policies of these boards. After abortion was made available on request in 1956, the number of legal abortions again increased substantially, and it continued to rise slowly until it reached a peak of 206,800 in 1969. Between that year and 1973, a decline of 18 percent was recorded. The number of legal abortions exceeded the number of live births during 1959–73, and the abortion ratio reached a maximum of 58 per 100 known pregnancies in 1964. Restrictions enacted in 1973, which took effect on January 1, 1974, resulted in an abrupt drop of about 40 percent in the number of abortions. Concurrently, the number of abortions on medical grounds rose from 4,000 (2.4 percent of all abortions) to almost 12,000 (11.8 percent). The number of abortions continued to decline between 1974 and 1979, and then stabilized.

In *Czechoslovakia*, legalization of abortion for nonmedical reasons in 1957 was preceded by almost two years of public discussion. Moderate increases in the abortion rate in 1956–57 reflected the changing attitude of the medical profession. Passage of a liberalized abortion law in December 1957 was followed by an eightfold rise in the number of legal abortions the next year. The increase continued at a slower pace until the total reached a peak of 94,300 in 1961, and was followed by a decline to fewer than 71,000 in 1963–64, obviously in response to restrictions imposed in 1962. Another rise followed; the number reached 102,800 in 1969, exceeding the 1961 peak. The number declined again to 81,200 in 1973. Since 1976, the number has again grown, reaching 113,800 in 1984.

In *Bulgaria*, the number of legal abortions increased in almost every year from 1955 to 1980 except 1968 and 1973, when significant drops occurred in response to restrictive decrees. After each restrictive period, the number of abortions increased again to a new high. Since 1980, the abortion rate has fallen from 77 to 62 per 1,000.

In the *German Democratic Republic*, the number of legal abortions fell from a moderately high level in 1950 to very low levels in the late 1950s and early 1960s. During these years, abortion practice appears to have been at least as restrictive in the German Democratic Republic as it was in the German Federal Republic. From 1963 through 1972, the only statistics available are those for the District of Rostock, where the interpretation of the law may have been more liberal than elsewhere. These statistics show a rise in abortion rates and ratios from 1964 to 1966, followed by a period of stability until 1971. The liberalization of the abortion statute in early 1972 produced a steep increase in the number of legal abortions, confirmed by nationwide data. From 1973 to 1977, numbers, rates and ratios declined at a moderate pace; since 1977, they have been gradually increasing. Statistics on legal abortions in *Poland* are believed to be grossly incomplete, especially in regard to those done in doctors' offices. Recent estimates suggest an annual total of "at least" 380,000 terminations in the late 1970s, corresponding to a rate of about 48 per 1,000 women aged 15–44 years and an abortion ratio of about 36 per 100 known pregnancies (Okólski, 1983).

Yugoslavia reported national totals of abortions (including treatment for spontaneous and illegal abortions) that increased each year for which data are available, from 219,700 in 1966 to 384,800 in 1984. The number excluding spontaneous and treated illegal abortions is available only for 1984, when it was 358,300. The abortion rate in 1984 was 71 per 1,000 women aged 15–44, and the number of abortions almost equaled the number of births. Abortion ratios per 100 known pregnancies in 1983 ranged from 66 in Serbia proper and 62 in the Vojvodina down to 14 in the autonomous region of Kosovo, with values from 39 to 49 in the rest of the country (Yugoslavia, 1986).

The data for *Romania* include hospital treatment following spontaneous and illegal abortions, and are therefore not directly comparable with those for most other countries. Prior to November 1966, when Romania's restrictive abortion law came into force, the great majority of abortions reported in that country, probably 90 percent in most years, were legal terminations. Since 1967, apparently increasing numbers of women have been hospitalized after illegal abortions, as indicated by the upward trend of abortion-related mortality (see Figure 17). It is known that the 206,000 abortions reported for 1967 included only 51,700 legal abortions (WHO, 1968). Another isolated report in a secondary source revealed almost 212,000 "therapeutic" abortions, including 144,000 granted to women with four or more children, probably in 1979 (Timbus, 1980). These numbers imply a legal abortion rate of 46.4 per 1,000 women aged 15–44, and a ratio of about 34 per 100 known pregnancies, both among the highest reported in the late 1970s. Romania has never published official statistics showing a breakdown of the totals into legal and other abortions. Official Romanian sources report that 421,400 abortions were performed in 1983, 37,000 for medical reasons. There were 131 abortions per 100 live births, but again, the abortion figures include treatment following illegal and spontaneous abortions. The legal abortion rate presumably fell sharply after severe restrictions were imposed in 1984.

The *Soviet Union* published some statistics on legal abortions during the 1920s and 1930s, but they did not cover the entire country. Although it has been reported that abortion statistics are currently compiled in the Soviet Union, none have been published officially for almost four decades. The figures shown in Table 2 for 1960 and 1965 are based on abortion ratios (abortions per birth). It is not certain that these statistics refer to the entire population of the Soviet Union nor that they are limited to legal abortions and exclude women admitted to hospitals for aftercare or the treatment of complications. The round figure of 10 million legal abortions in 1970 is an estimate published by the International Planned Parenthood Federation (1974). A substantially lower number of legal abortions is suggested by a statement attributed to the chief gynecologist of Moscow, Yuri Bloshansky: "For each birth, we figure two abortions. In Moscow, we [had] . . . about 200,000 abortions [in 1973]. That includes both abortions and miscarriages. Abortions are about 85 percent, or 170,000" (Smith, 1976, pp. 141–142). Since the abortion ratio is almost certainly lower in the Soviet Union as a whole than in Moscow, a total of 6.5 million legal abortions, corresponding to a rate of about 115 per 1,000 women aged 15–44, would seem to be compatible with Bloshansky's statement. An even lower number of abortions, perhaps as few as five million, or 80 per 1,000 women aged 15–44, is suggested by a statement to United Press International on June 3, 1981, attributed to Alesandr I. Smirnov, deputy chief of the government's planning agency, that "there are slightly more abortions than births in the Soviet Union each year."

A more recent study has reported a figure of 2.08 abortions per live birth (Bednii, 1984, p. 111). This figure is evidently derived from a 1982 survey in the Russian Republic, which contains about 52 percent of the population of the Soviet Union. Projected to the entire Soviet Union, it suggests that there were 11 million abortions in 1982 and an abortion rate of 181 per 1,000 women of reproductive age. These numbers may be conservative, since abortions are usually underreported in surveys. Other studies have found ratios of 2.7–5.9 abortions per live birth in specific areas and subgroups (Bednii, 1984, p.111). On the other hand, the Russian Republic may have a slightly higher abortion rate than the country as a whole, since its population is only seven percent Muslim, whereas the proportion is 17 percent for the entire Soviet Union, and Muslim women are thought to have a low abortion rate (Feshbach, 1982).

Asia, Africa and Oceania

East Asia

The reported number of legal abortions and the abortion rate and ratio in *Japan*, which has the longest series of national data, reached their peaks in the late 1950s. From then to 1983, the number of reported abortions declined by 50 percent; the abortion rate per 1,000 women of reproductive age, by 59 percent; and the abortion ratio per 100 known pregnancies, by 34 percent.

Because the variation of abortion rates and ratios among the prefectures of Japan is far greater than could be explained by differences in the level of urbanization and other socioeconomic factors, Japanese scholars have argued that the reporting of legal abortions by physicians performing them is grossly incomplete in many places. According to estimates by Muramatsu, also shown in Table 2, it would appear that a substantial majority of legal abortions escape registration, that the completeness of reporting declined from 1955 to 1970 and improved slightly thereafter, and that the number of abortions in 1975 still exceeded the number of births by about 350,000, or by one-fifth. The high abortion rate and ratio reflect, to a large extent, the restricted availability in Japan of modern contraceptive methods, especially the pill and surgical sterilization (Coleman, 1978).

In the *Republic of Korea*, the incidence of abortion increased rapidly during the 1960s, especially in Seoul and other urban areas. According to estimates based on a sample survey of 6,300 ever-married women aged 15–44, the abortion rate increased by 180 percent between 1960 and 1971 (Hong and Watson, 1976, p.163). During this period abortions were technically illegal but could be readily obtained from physicians, mainly specialists in obstetrics and gynecology, and most women surveyed were unaware of the law. Although the data collected in this survey were believed to be among the most complete on abortion experience obtained by direct questioning, they have recently been shown to be quite incomplete. A survey of hospital and physician providers in Seoul, conducted in late 1977 and early 1978, generated an estimate of 480,000 abortions among residents, corresponding to an abortion rate of 235 per 1,000 women aged 15–44. This rate is 3.7 times higher than the rate estimated for Seoul in 1969–71 by the earlier survey, and is very high, even for a metropolitan population. The results of the provider survey probably reflect a continuing increase in the incidence of abortion in Seoul, but also the exclusion of unmarried women from the sample survey and incomplete reporting there by ever-married respondents (Hong and Tietze, 1979).

National totals of the number of abortions performed in the *People's Republic of China* have been published for the years 1971 through 1983, but it is not known how complete the data are. For 1976, a year of political change and disruption, two different figures have been published, 4.7 million, as shown in Table 2, and 6.6 million (Zhang, 1980). The data in Table 2 suggest a relatively stable abortion rate of 26–28 abortions per 1,000 women aged 15–44 during the period 1972–78, followed by sharp increases to a rate of 62 in 1983. The abortion ratio per 100 known pregnancies increased even more sharply, reflecting a declining birthrate and implementation of the one-child policy. In 1983, approximately 43 percent of known pregnancies were terminated by abortion.

In late 1982, the Chinese State Family Planning Commission conducted a large-scale fertility and family planning survey, collecting information from over one million persons. A question was asked on the number of abortions during 1979–82. The results yield a national estimate of 21 abortions per 100 births in 1981–82, much lower than the ratio of 50 per 100 indicated by the national statistics. Reasons for the discrepancy are thought to be that the underreporting of abortions is common to all surveys and that statistics are inflated because of duplicate reporting from overlapping jurisdictions and incentives to overstate the number of abortions provided (Freedman et al., 1986). Consequently, there is a strong possibility that the true numbers, rates and ratios are somewhat lower than those shown in Table 2.

Three local-area surveys reported abortion rates of the same order of magnitude as those shown in the national statistics. Exact comparison is difficult, however, because only married women were surveyed and the abortion rates are expressed in terms of married women aged 20–49. The surveys took place in Xian (1981), Shanghai (1981) and Beijing (1982), and reported abortion rates of 74, 50 and 67, respectively, during the year prior to the survey (Yan, 1985). The abortion ratios ranged from 43 to 55 per 100 known pregnancies. In two of the surveys, 46 percent, and in one, 45 percent, of the women had had at least one induced abortion. Since the survey areas were largely urban, the incidence of abortion there might be higher than the incidence in the country as a whole.

Data from the Beijing study show that 10 percent of women obtaining abortions in 1980–82 were nulliparous, while 64 percent had had just one birth. Almost half of the women stated that the reason for the abortion was to comply with the one-child policy. In Xian in 1981, married women who had had no prior births terminated five percent of their pregnancies by induced abortions; women who had had one birth, 89 percent; and those who had had two or more, 96 percent (Feng and Chen, 1983).

In *Taiwan*, even before the abortion law was liberalized in 1985, many physicians evidently provided abortion services. Statistics on legal abortion are now being collected, but reporting is said to be very incomplete. Surveys have shown increasing proportions of married women reporting lifetime experience of induced abortion, rising from nine percent in 1965 to 23 percent in 1980 (Chang et al., 1981); but a survey in one county, using the randomized response technique (Chi et al., 1972), suggests a much higher incidence.

The number of legal abortions reported under *Singapore's* liberalized abortion law of 1969 increased from year to year, with one minor exception, until 1982 and was unchanged in 1983, when the abortion rate stood at 28.1 per 1,000 women aged 15–44, about the same as the level as in the United States. Because abortions performed by private providers are believed to be incompletely reported, the actual rate may have been substantially higher. In *Hong Kong*, the legal abortion rate is increasing, but is still lower than in some other Asian countries. However, many Hong Kong residents obtain abortions in nearby communities in the People's Republic of China.

Surveys of married women in *Malaysia* (Sinnathuray et al., 1977) and the *Philippines* (Flavier and Chen, 1980) and of abortion providers in Bangladesh (Islam, 1982) and *Thailand* (Narkavonnakit, 1979; Narkavonnakit and Bennett, 1981) have documented the prevalence of illegal abortion. While it is not possible to derive reliable national abortion rates and ratios from these data, an estimate of almost 300,000 abortions annually in Thailand has been widely accepted, corresponding to an abortion rate of 37 per 1,000 women of reproductive age (Population Council, 1981, p. 7).

South-Central Asia

In *Bangladesh*, although the law prohibits abortion under most circumstances, increasing numbers of menstrual regulations (MRs) up to 10 or 12 weeks are being performed in government and private hospitals and clinics. Shown in Table 2 are the numbers of MRs reported by clinics to the government information system. Reporting is thought to be incomplete, especially for MRs performed in private practitioners' offices, in certain clinics operated by nongovernmental organizations and after regular hours in reporting clinics ("Role of MR . . . ," 1986). Nevertheless, the reported data suggest that increasing numbers of menstrual regulations are being performed in medical facilities. The number of illegal abortions induced annually in Bangladesh has been variously estimated at 204,000, based on a local area study (Kahn et al., 1986), and 780,000, based on a study of maternal mortality in which it ws assumed that one abortion-related death occurred for each 100 abortions (Measham et al., 1981).

For *India*, the International Planned Parenthood Federation estimated 6.4 million illegal abortions in 1970, corresponding to an abortion ratio of about 20 per 100 known pregnancies and a general abortion rate in the vicinity of 55 per 1,000 (IPPF, 1974). Implementation of the new abortion statute, which began on April 1, 1972, has been slow and geographically uneven. In addition to a lack of facilities that are authorized and equipped to provide services, a lack of awareness about the procedure's legality and availability appears to be an important factor in the incidence of legal abortion in rural areas. One study of 2,300 rural residents found that only 2.5 percent of the women were aware of the Medical Termination of Pregnancy Act (Nair and Kurup, 1985). According to reports from each state, only 518,600 "medical terminations of pregnancy" (MTPs) were performed during the fiscal year ending March 31, 1983; the reported rate of legal abortions was 3.3 per 1,000 women aged 15–44, and the abortion ratio, about 2.1 per 100 known pregnancies. There is evidently underreporting of abortions performed in private facilities, and the true number of legal abortions may be twice the reported total (Bahl-Dahl, 1985). The reported rate of legal abortions increased every year except one between 1973 and 1983, and remained stable between 1983 and 1984.

Africa and the Middle East

In *Tunisia*, the number of abortions increased at a modest, although accelerating, pace from 1966 to 1972, when abortion for other than health reasons was authorized only for women with five or more living children. By 1974, the first full year during which such abortions were available to all women, the abortion rate jumped to 10.9 per 1,000 women aged 15–44, almost equaling that of residents in England and Wales. Three years later the abortion rate reached 17.2; then, it dropped gradually to 13.6 per 1,000 by 1985. The number of legal abortions performed in the private sector has been estimated at 3,600; addition of this number would raise the abortion rate by about three points (Charfeddine, 1980).

Zambia's liberalized abortion law of 1972 has been implemented on a very limited scale, at least in part because of a lack of equipment and trained staff and the cumbersome administrative procedure required. The incidence of illegal abortion is believed to be high in the expanding urban areas of many African countries.

Although *South African* law permits abortion for broad health indications, only 900 legal abortions were performed there in 1981 and 1982 combined. Two-thirds of the abortions were obtained by white women. In addition, 1,000 South African women obtained abortions in England in 1982.

The legal abortion rate in *Israel* has been fairly steady at 18–22 per 1,000 women aged 15–44 from 1979 to 1984. In addition to the legal abortions, there may be a significant number of unreported illegal abortions. Legal abortions are thought to be obtained disproportionately by Jewish women.

Legal abortions are being performed in *Turkey*, but the number is unknown. According to one report, 40,000 abortions were performed in clinics during the year after legalization in 1984. Abortions are also performed in private physicians' offices. A study of 500 abortion patients at Numune Hospital, Ankara, found that 56 percent had had prior abortions, which suggests that abortion was commonly performed before legalization (Turkey, 1985).

Oceania

In *Australia*, there were 54,600 insurance claims for abortions in 1984, corresponding to an abortion rate of 15.2 per 1,000 women aged 15–44 and an abortion ratio of about 22.7 per 100 known pregnancies. Claims paid in prior years are incomparable, because of changes in the proportion of women covered by insurance. The number of insurance claims is a minimum estimate, as it excludes abortions performed in public wards and on uninsured women, but it is probably within 20 percent of the true number. The Royal Commission on Human Relationships estimated during the 1970s that 60,000 or more abortions were performed each year in Australia (Australia, 1977, p. 198). Complete statistics on abortion are available only for South Australia. In this state, which is thought to be representative of the country as a whole, the abortion rate increased until around 1980 and has stabilized or possibly declined since (Australia, 1986).

Following the imposition of legal restrictions in *New Zealand*, the number of legal abortions declined from 5,400 in 1977 to 2,100 in the following year. A rebound to 5,900 occurred in 1980, and the rate continued to increase, to 7,300 in 1984. Large numbers of New Zealand women, especially single women aged 20–24, obtained abortions in Australia during 1978 and 1979.

Abortion Migration

When abortion services are unavailable in a country or area, because of either legal restrictions or lack of facilities, women may travel, sometimes long distances, to obtain legal abortions. A striking example of this phenomenon occurred in the United States in 1970–72, when legal abortion services were available in New York State but were almost completely inaccessible in most other states. The number of out-of-state women traveling to New York for abortions reached a peak of 172,000 in 1972, then fell rapidly after the 1973 Supreme Court decisions legalizing induced abortion nationally (New York State, 1985).

In Europe, the Netherlands and England and Wales have provided services to large numbers of

Table 3. Number of nonresidents obtaining legal abortions in England and Wales, by area of residence: 1969–1984

Country	1969	1970	1971	1972	1973	1974	1975	1976
Austria	*	*	*	300	300	300	100	100
Belgium	200	600	2,100	2,500	1,500	600	400	400
Canada	400	300	100	100	*	*	*	*
France	500	2,300	12,000	25,200	35,300	36,400	14,100	4,600
German Federal Republic	1,600	3,600	13,600	17,500	11,300	6,000	3,400	2,400
Ireland, Northern	100	200	600	800	1,000	1,100	1,100	1,100
Ireland, Republic of -	100	300	600	1,000	1,200	1,400	1,600	1,800
Italy	*	100	200	500	1,200	1,800	5,600	8,200
Netherlands	100	800	800	200	100	100	100	100
Scotland	200	300	500	800	1,100	1,000	1,100	1,000
South Africa	*	*	*	*	*	*	*	*
Spain	*	100	200	700	1,800	3,000	4,400	6,400
Switzerland	*	100	400	700	700	600	400	300
United States	1,600	1,600	200	100	100	100	100	100
All other	200	300	900	900	900	1,200	1,100	1,200
Total	5,000	10,600	32,200	51,300	56,500	53,600	33,500	27,700

Country	1977	1978	1979	1980	1981	1982	1983	1984
Austria	100	100	100	100	100	*	100	100
Belgium	300	300	200	200	200	100	100	100
Canada	*	*	*	*	*	*	*	*
France	4,100	3,200	3,000	4,100	4,100	3,800	3,800	3,900
German Federal Republic	1,700	1,200	700	600	500	400	300	300
Ireland, Northern	1,200	1,300	1,400	1,600	1,400	1,500	1,500	1,500
Ireland, Republic of	2,200	2,500	2,800	3,300	3,600	3,700	3,700	3,900
Italy	7,500	3,900	1,000	800	600	600	600	700
Netherlands	100	100	*	*	*	*	*	*
Scotland	800	1,000	1,000	1,200	1,000	900	800	800
South Africa	*	*	*	*	500	600	600	800
Spain	10,200	14,000	17,100	18,300	20,500	21,400	22,000	20,100
Switzerland	300	300	200	200	200	100	100	100
United States	100	100	100	100	100	100	100	100
All other	1,700	1,700	1,500	1,500	1,100	1,300	1,100	1,200
Total	30,300	29,700	29,100	32,000	33,900	34,500	34,800	33,600

*Not available or less than 50, included in "all other."

Sources: United Kingdom, 1974 Vol. 2, p. 204; 1974b; 1985a; 1985.

foreign women. In 1975, about 84,000 women from other countries, especially the German Federal Republic, obtained abortions in the Netherlands. This number declined to 25,000 in 1984.

Between 1968 and 1984, more than 500,000 abortions involving nonresident women were reported in England and Wales. Table 3 shows the distribution of these women by country of residence from 1969 onward. The annual fluctuations reflect clearly the changes in access to legal abortion in other countries. In 1969 and again in 1970, 1,600 residents of the United States obtained abortions in England and Wales; this number fell sharply after 1970, when the abortion statute in New York State was liberalized. The surfacing of officially tolerated abortion clinics in the Netherlands reduced the influx from that country in 1972, and one year later from Belgium and the German Federal Republic as well. The numbers from France reached a high plateau in 1973–74, then declined markedly. In 1980, however, this number increased, reflecting France's attempts to enforce its abortion law more restrictively. The number of Italian women seeking abortions in England and Wales began to decline in 1977 and had dropped substantially by 1980, while abortion-seeking women from Spain, the Republic of Ireland and Northern Ireland continued to come in increasing numbers. It is believed that many additional Irish women claim to be residents of England because they are staying with friends or are apprehensive about prosecution in Ireland. The 3,900 abortions provided to women from the Republic of Ireland in 1984 indicates a minimum abortion rate of 5.2 per 1,000 women of reproductive age in that country.

Demographic and Social Characteristics

4

The incidence of abortion and ratio of abortions to births vary between subgroups in a population for a number of reasons, most notably because of differing rates of unintended pregnancy and differential access to legal abortion services. The rate of unintended pregnancy, in turn, depends on the number of children desired, exposure to intercourse, rates of temporary or permanent infecundity and the availability and use of contraceptives.

Differences according to age, parity and marital status are shown in Tables 4–11 for those countries and periods for which relatively complete data are available. The data are derived from numbers of legal abortions reported to health authorities or, for the United States and the Netherlands, from surveys of abortion providers. Rates and ratios are not shown for countries without accurate counts of the total number of abortions, such as the German Federal Republic, France and Italy.

Age

The percentage distribution of women obtaining legal abortions by age at the time of the procedure is shown in Table 4. A substantial majority of women having abortions in each of the areas shown (55–79 percent) were aged 20–34. Underlying patterns of fecundity, sexual activity, family formation and family-building explain the concentration of abortions among women in this age range.

The proportion of all women obtaining legal abortions who were under age 20 increased in the majority of countries listed in the table over the early part of the period for which data are available and then leveled off. Proportions as high as 30 percent or more were reached at some time in four English-speaking areas: Canada, New Zealand, Scotland and the United States. In recent years, the proportions have been falling in several countries, in part because of decreasing numbers of teenagers in the population. The lowest proportions of abortions obtained by teenagers are now reported in Japan and Tunisia, and the next lowest in India and Czechoslovakia. Iceland, Japan and Tunisia are the only countries in which women aged 40 or older have made up more than 10 percent of those obtaining abortions in any recent period.

As shown in Table 7, in recent years, the share of women obtaining legal abortions who were under age 15 was highest in New Zealand (1.2 percent), the United States (0.9 percent), England and Wales (0.8 percent) and Canada (0.7 percent). It was 0.1 percent or lower in Czechoslovakia, the German Democratic Republic, the German Federal Republic and Italy. Women aged 45 or older obtained 1.9 percent of all legal abortions in Tunisia; 1.4 percent in Finland; 1.2 percent in the German Federal Republic; 1.0 percent in Italy; 0.9 percent in Sweden; 0.8 percent in Japan; 0.7 percent in France; 0.6 percent in Denmark, Hungary, the Netherlands, Norway and Singapore; 0.5 percent in the German Democratic Republic; 0.4 percent in Scotland; 0.3 percent in Czechoslovakia, England and Wales, India and New Zealand; and 0.2 percent in Canada (not shown). The United States does not publish separate statistics for this age-group.

The percentage distribution by age of women obtaining abortions reflects, to a certain extent, the age distribution of women within the reproductive age-group; therefore, age-specific abortion rates present a clearer picture of the true age pattern of the incidence of abortion. In all but five countries listed in Table 5, these rates are highest for women aged 20–24. The five exceptions are Czechoslovakia, the German Democratic Republic, Hungary, Singapore and Tunisia, countries in which the highest abortion rates are found among women aged 25–29 or 30–34. In most countries, there has been a shift in the age at abortion to younger ages, especially to the 20–24-year age-group. In some, such as Canada, England and Wales, the Netherlands, New Zealand and the United States, increasing use of contraceptive sterilization among women 25 and older has undoubtedly contributed to this shift.

Among teenagers, abortion rates have fallen considerably in recent years in Canada, the Netherlands and the four Scandinavian countries. (Trends

Continued on page 57.

Table 4. Percentage distribution of women who obtain legal abortions, by age at termination:[1] Selected areas, years and characteristics

Area, year and characteristic	19 or less	20–24	25–29	30–34	35–39	40 or more
Canada						
1974	31.5	29.3	18.5	10.7	6.7	3.3
1975	31.3	29.1	19.5	10.6	6.5	3.0
1976	30.7	29.6	19.8	10.9	6.1	2.9
1977	30.8	30.3	19.4	11.2	5.8	2.5
1978	30.4	31.0	19.2	11.3	5.7	2.4
1979	30.5	31.4	19.3	11.3	5.4	2.1
1980	29.7	31.8	19.6	11.6	5.3	2.0
1981	28.3	32.3	19.9	12.0	5.5	2.0
1982	26.8	32.8	20.4	12.2	5.9	1.9
1983	24.9	33.3	20.8	12.6	6.4	2.0
1984	23.6	33.5	21.4	12.7	6.9	2.0
Czechoslovakia						
1959–63	5.6	16.1	24.3	26.6	20.7	6.7
1964–68	7.0	23.1	23.7	22.0	17.2	7.0
1969–73	8.3	25.9	26.7	19.6	13.9	5.6
1974	7.8	24.4	28.1	21.0	13.1	5.6
1975	7.6	23.7	28.3	21.5	13.5	5.4
1976	6.9	23.7	28.7	22.3	13.2	5.2
1977	5.7	22.2	29.6	23.7	13.7	5.1
1978	5.6	22.4	29.3	24.5	13.6	4.6
1979	5.9	21.8	29.4	24.4	14.0	4.5
1980	5.8	20.9	29.6	25.0	14.1	4.6
1981	6.2	20.2	29.1	25.5	14.4	4.6
1982	6.3	19.2	29.0	25.6	15.1	4.8
1983	6.7	19.2	28.2	25.2	15.8	4.9
1984	7.0	19.9	27.0	25.2	15.8	5.2
Denmark						
1963	8.3	20.0	24.0	21.0	16.2	10.5
1964	8.6	20.5	24.1	21.1	15.6	10.1
1965	8.2	20.7	23.6	20.0	17.0	10.5
1966	8.6	21.7	22.8	19.4	17.2	10.3
1967	13.1	20.6	19.3	19.0	17.5	10.5
1968	14.6	19.8	18.7	18.3	17.8	10.8
1969	16.6	19.3	19.3	17.8	16.5	10.5
1974	14.4	20.7	24.5	20.1	13.5	6.8
1975	16.2	21.3	23.1	20.2	13.0	6.2
1976	17.5	21.4	21.9	20.4	12.6	6.2
1977	18.0	21.6	20.6	20.9	13.0	5.9
1978	18.9	22.2	19.6	20.1	13.0	6.2
1979	18.3	22.9	19.7	19.4	13.4	6.3
1980	18.3	22.9	19.5	19.2	13.8	6.3
1981	17.7	24.0	19.7	18.1	14.0	6.5
1982	17.1	24.5	20.0	17.6	14.2	6.5
1983	17.0	25.6	20.2	16.5	14.3	6.4
England and Wales[2]						
1968	17.6	28.1	18.3	16.0	13.2	6.8
1969	19.0	26.5	18.5	16.4	13.1	6.5
1970	20.5	26.7	18.5	16.0	12.3	6.0
1971	22.1	26.4	18.6	15.3	11.9	5.7
1972	23.0	25.2	19.5	15.1	11.5	5.7
1973	24.4	24.6	19.6	14.7	11.2	5.5
1974	25.5	24.7	19.4	14.4	10.8	5.2
1975	26.5	24.0	19.4	14.4	10.5	5.2
1976	27.3	23.6	19.3	14.6	10.2	5.0
1977	27.9	23.8	18.1	15.0	10.1	5.1
1978	27.0	24.2	18.0	15.7	10.2	4.9
1979	27.5	25.0	17.3	15.5	10.1	4.6
1980	27.6	25.7	17.1	15.1	9.9	4.6
1981	27.3	26.8	17.1	14.6	10.0	4.2
1982	27.4	27.3	17.3	13.7	10.3	4.0
1983	27.7	27.5	17.4	13.3	10.3	3.8
1984	27.6	28.7	17.8	12.6	9.7	3.6
Type of service, 1984						
NHS hospitals	29.1	26.7	17.2	12.7	10.2	4.1
Non–NHS premises	26.2	30.5	18.3	12.5	9.4	3.1

Note: For sources, see Table 2.

[1] Women of unknown age distributed pro rata.

[2] Residents only.

Area, year and characteristic	19 or less	20–24	25–29	30–34	35–39	40 or more
Finland						
1958–62	3.7	14.0	23.3	26.0	21.3	11.7
1963–67	7.3	17.8	21.9	22.2	19.0	11.8
1968	8.8	21.0	19.8	20.5	18.2	11.7
1969	9.5	21.3	18.9	18.9	17.1	14.3
1970	11.7	22.8	18.9	17.6	15.5	13.5
1974	16.0	25.8	21.2	14.6	12.2	10.2
1975	19.2	24.7	22.3	12.9	11.4	9.5
1976	19.8	25.6	19.0	13.8	12.1	9.7
1977	20.8	24.7	19.2	14.8	11.3	9.2
1978	22.0	24.6	18.7	15.1	10.2	9.2
1979	23.1	24.3	17.3	15.9	9.8	9.6
1980	24.1	24.5	16.0	15.6	10.6	9.2
1981	23.5	24.0	16.0	15.4	11.6	9.5
1982	23.8	24.7	15.5	14.9	12.3	8.7
1983	23.2	25.4	15.6	14.2	13.3	8.2
France[3]						
1979	12.9	26.5	23.8	19.6	10.8	6.4
1980	12.9	26.1	23.5	20.3	10.9	6.2
1981	12.5	26.0	23.4	20.7	11.7	5.7
1982	12.3	25.1	23.7	20.9	12.6	5.4
German Democratic Republic						
1973	11.7	22.8	19.4	24.5	16.3	5.3
1974	12.3	22.2	17.6	24.1	17.8	6.0
1975	12.7	21.8	17.7	22.2	18.9	6.7
1976	13.5	20.5	19.2	19.4	19.9	7.5
German Federal Republic						
1977	11.3	18.8	22.0	18.8	18.8	10.3
1978	13.0	20.7	22.2	18.3	16.2	9.6
1979	13.6	21.9	21.8	18.0	15.4	9.3
1980	13.6	22.6	21.4	19.2	13.7	9.5
1981	13.3	23.5	21.6	19.2	13.1	9.4
1982	12.8	24.9	21.3	19.5	12.7	8.9
1983	11.9	25.1	21.8	19.3	13.1	8.7
1984	11.1	25.4	22.6	19.6	13.3	8.0
Hungary						
1957–61	5.1	22.4	29.0	24.0	15.2	4.3
1962–66	6.8	24.1	27.4	23.1	13.8	4.8
1967–71	8.3	25.4	26.9	21.0	13.6	4.8
1972	14.4[4]	26.7	23.3	19.0	12.6	4.0
1973	10.2	25.1	23.7	20.5	14.3	6.2
1974	11.0	22.9	20.6	20.1	17.1	8.3
1975	10.7	23.5	21.0	19.7	17.0	8.1
1976	10.3	23.8	21.7	19.5	16.7	8.0
1977	10.7	23.3	22.2	19.3	16.5	8.0
1978	10.8	21.9	22.9	20.0	16.6	7.8
1979	10.5	20.5	23.7	20.4	16.8	8.1
1980	10.3	18.6	24.5	21.4	16.9	8.3
1981	10.3	18.0	24.5	22.1	16.5	8.6
1982	10.4	17.3	24.4	22.3	17.1	8.5
1983	10.7	16.9	23.1	22.9	17.7	8.7
Iceland						
1976–78	20.1	23.7	16.8	16.6	12.1	10.7
India						
1977/78	6.3	23.3	32.6	23.1	11.7	3.0
1978/79	6.3	25.3	32.1	22.0	11.2	3.1
1979/80	7.5	23.8	31.7	22.3	10.8	3.9
1980/81	6.9	23.7	32.7	22.4	10.8	3.4
1981/82	6.1	23.0	33.2	23.5	11.1	3.1
1982/83	6.5	23.5	32.6	23.1	11.1	3.2
Italy						
1983	8.2	21.1	22.3	21.6	17.8	9.0

[3] Age attained during the year. This averages one-half year younger than age in completed years at time of abortion. For example, adjustment to age in completed years would increase the percentage of abortions obtained by women under age 20 in France in 1980 from 12.9 percent to 15.5 percent.

[4] This temporary rise has been interpreted as a response to a medical policy, subsequently abandoned, disallowing prescription of oral contraceptives for teenagers (Klinger, 1980).

Table 4 (continued)

Area, year and characteristic	19 or less	20–24	25–29	30–34	35–39	40 or more
Japan						
1955–59	1.2	15.6	27.6	26.8	19.2	9.6
1960–64	1.4	16.1	28.8	27.0	18.3	8.4
1965–69	1.9	17.3	27.3	27.0	18.0	8.5
1970–74	1.9	19.4	25.6	25.7	18.6	8.8
1975	1.8	16.6	27.5	26.4	18.4	9.3
1976	2.0	16.3	28.7	25.5	18.3	9.2
1977	2.1	15.5	27.4	25.9	19.3	9.8
1978	2.5	15.3	25.9	27.2	19.5	9.6
1979	2.8	15.3	23.7	28.4	20.5	9.3
1980	3.2	15.1	22.1	29.7	20.6	9.3
1981	3.7	15.2	20.8	31.0	19.9	9.4
1982	4.1	15.3	19.3	30.7	20.6	9.9
1983	4.6	15.7	18.2	29.2	22.2	10.1
Netherlands[2,5]						
1978	17.7	22.0	20.6	19.1	13.1	7.5
1979	16.7	23.1	21.9	19.5	13.0	5.8
1980	16.5	25.5	21.7	19.6	11.4	5.3
1981	16.9	26.1	21.8	18.7	11.7	4.8
1982	16.4	26.4	21.5	18.2	12.2	5.2
1983	16.6	27.0	21.4	17.7	12.6	4.8
1984	15.1	26.4	22.3	18.1	13.4	4.7
New Zealand						
1976	31.6	27.9	17.4	11.9	7.7	3.5
1977	33.2	26.8	17.3	11.7	7.8	3.2
1978	27.7	22.2	18.4	14.7	10.2	6.8
1979	27.8	24.5	18.9	14.4	9.1	5.3
1980	27.7	28.6	19.3	13.3	7.4	3.7
1981	28.0	29.4	18.7	13.9	6.9	3.2
1982	28.0	30.2	18.8	12.9	6.9	3.1
1983	27.1	31.2	19.6	12.7	6.4	3.0
Norway						
1976	23.2	24.4	19.3	15.8	10.8	6.5
1977	24.6	24.1	18.1	16.2	10.7	6.3
1978	25.7	23.8	17.9	16.2	10.2	6.2
1979	25.5	24.4	18.4	16.1	9.9	5.7
1980	25.6	24.9	17.8	15.6	10.4	5.7
1981	26.1	23.8	18.6	15.4	10.9	5.2
1982	24.6	24.9	17.6	15.3	12.4	5.2
1983	24.4	25.6	18.0	14.9	11.7	5.3
1984	24.2	26.4	18.4	14.4	11.6	4.9
Scotland[6]						
1976	29.7	24.7	16.9	12.3	10.7	5.7
1977	29.2	25.7	17.0	12.9	9.5	5.7
1978	28.5	26.3	16.6	14.1	9.6	4.9
1979	27.2	27.7	16.3	14.0	9.9	4.9
1980	29.7	29.0	16.1	12.4	8.6	4.2
1981	29.2	28.8	16.7	12.9	8.5	3.9
1982	29.9	30.0	16.2	11.6	8.8	3.5
1983	29.1	30.6	17.4	11.3	8.3	3.3
Singapore						
1970	1.8	10.5	17.2	29.5	24.2	16.8
1971	2.9	12.5	19.0	29.7	22.3	13.6
1972	2.7	13.8	19.9	29.4	22.1	12.1
1973	3.5	17.6	23.7	25.3	18.8	11.1
1974	6.1	19.9	24.6	22.4	17.6	9.4
1975	8.3	25.0	25.5	18.6	14.2	8.4
1976	7.5	26.1	27.3	17.3	13.6	8.2
1977	8.1	27.6	27.5	17.9	11.9	7.0
1978	8.3	28.4	28.0	17.9	11.0	6.4
1979	8.2	29.9	27.4	18.7	9.8	6.0
1980	8.8	28.4	27.8	20.4	9.2	5.4
1981	8.1	28.5	28.6	20.6	9.1	5.2
1982	7.8	27.7	29.2	21.0	9.6	4.7
1983	8.0	27.4	29.0	20.6	10.5	4.4
South Africa						
1981–82	23.7	18.9	20.4	15.1	13.4	8.5

5. Sample surveys have found that the characteristics (other than period of gestation) of women obtaining hospital abortions are similar to those of women obtaining abortions in clinics (Kolkman-Koelink and Ketting, 1980). Women obtaining hospital abortions are therefore distributed according to the characteristics derived from clinic data.
6. Including residents of Scotland obtaining abortions in England and Wales.

Area, year and characteristic	19 or less	20–24	25–29	30–34	35–39	40 or more
Sweden						
1956–60	9.2	13.2	20.7	23.2	21.6	12.1
1961–65	15.8	17.9	19.2	18.8	16.8	11.5
1966–70	21.3	23.0	18.0	15.5	13.6	8.6
1971	23.4	24.3	20.0	14.6	11.2	6.5
1972	23.5	24.3	21.3	14.5	10.9	5.5
1973	23.5	24.3	21.6	14.8	10.4	5.4
1974	24.5	23.0	21.9	15.4	10.2	5.0
1975	23.8	22.9	21.2	16.1	10.5	5.5
1976	22.9	22.6	20.3	17.6	11.0	5.6
1977	21.6	22.5	20.8	18.0	11.1	6.0
1978	19.6	21.9	19.8	19.6	12.8	6.3
1979	17.5	21.6	19.3	19.7	14.5	7.4
1980	17.7	22.3	18.1	19.2	15.2	7.5
1981	18.1	22.3	18.4	18.4	15.7	7.1
1982	17.7	22.7	18.5	17.7	15.8	7.6
1983	17.1	22.7	18.6	17.6	16.2	7.8
1984	16.8	23.8	18.3	16.9	16.1	8.1
Tunisia						
1974	1.6	13.8	23.7	25.4	23.3	12.2
1975	1.7	15.0	24.8	24.4	23.2	10.9
1976	2.1	16.4	25.6	23.4	21.9	10.6
1977	1.8	16.6	25.0	25.1	21.0	10.5
1978	2.5	16.5	25.2	25.3	20.0	10.5
United States						
Reported to the CDC						
1972	32.6	32.5	17.1	9.8	5.7	2.3
1973	32.7	32.0	17.7	9.9	5.5	2.2
1974	32.7	31.7	18.1	10.0	5.4	2.1
1975	33.1	31.9	18.3	9.7	5.0	2.0
1976	32.1	33.3	18.7	9.3	4.8	1.8
1977	30.8	34.5	18.7	9.5	4.7	1.8
1978	30.0	35.0	18.9	9.7	4.8	1.6
1979	30.0	35.4	19.1	9.6	4.5	1.4
1980	29.2	35.5	19.6	9.9	4.4	1.4
1981	28.0	35.3	20.1	10.6	4.5	1.5
1982	27.1	35.1	20.8	10.7	4.8	1.5
Estimated by the AGI[7]						
1973	32.8	32.3	17.4	9.7	5.5	2.3
1974	32.5	31.9	18.1	10.0	5.4	2.1
1975	32.9	32.1	18.2	9.7	5.1	2.0
1976	32.1	33.3	18.7	9.3	4.8	1.8
1977	31.3	34.2	18.7	9.4	4.7	1.7
1978	30.8	34.7	18.9	9.5	4.6	1.5
1979	30.8	35.1	19.0	9.5	4.3	1.3
1980	29.6	35.4	19.6	9.8	4.3	1.3
1981	28.5	35.2	20.0	10.6	4.4	1.3
1982	27.5	35.0	20.7	10.7	4.7	1.4

for selected countries are shown in Figure 4). In England and Wales and the United States, rates have stabilized, after having risen during the 1970s. Rates have been rising in Czechoslovakia, New Zealand and Singapore, but are still not above 15 per 1,000 women aged 15–19, and are lower than the rates found in many other countries.

The further breakdown of the youngest age-group in Table 7 reveals that the abortion rate is higher among women aged 18–19 than among those in either the preceding or the following age-group, in Canada, England and Wales, Finland, New Zealand, Norway and the United States. The patterns of age-specific abortion rates, illustrated in Figure 5, suggest major differences among countries in the sexual and contraceptive behavior of teenagers, the acceptability of motherhood at young ages and the contraceptive behavior of adult women.

The last column in Table 5 shows the total abortion rate, which is the number of abortions that

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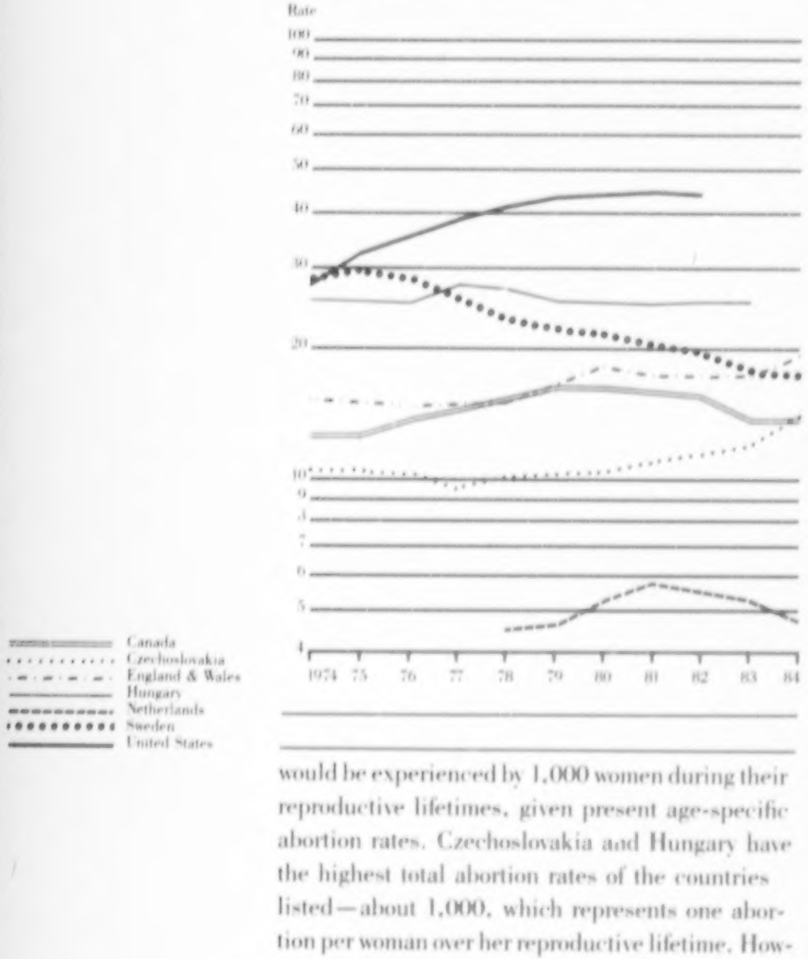
[7] Adjusted for changes from year to year in the number of states reporting to the CDC.

Figure 4. Legal abortion rate per 1,000 women aged 19 and younger:* Selected areas, 1974–84 (Semilog scale)

*Denominator is women aged 15–19.



would be experienced by 1,000 women during their reproductive lifetimes, given present age-specific abortion rates. Czechoslovakia and Hungary have the highest total abortion rates of the countries listed—about 1,000, which represents one abortion per woman over her reproductive lifetime. However, some countries not included in the table (for example, Bulgaria, Japan and the Soviet Union) have higher rates. (In the case of the Soviet Union, the rate amounts to perhaps four or more lifetime abortions.) Singapore and the United States have rates of 0.79 abortions per woman. The Scandinavian countries other than Finland have rates ranging from 0.47 to 0.55; Finland and the remaining English-speaking areas, from 0.24 to 0.37; and the Netherlands, the lowest, at 0.17 abortions per woman.

Age-specific abortion ratios per 100 known pregnancies, shown in Table 6, fall into two distinct patterns, revealing major differences among countries. In eight countries (Canada, England and Wales, the Netherlands, New Zealand, Norway, Scotland, Sweden and the United States), the pattern has been characterized by a drop from higher levels among teenagers to a low at ages 20–24 or 25–29, and then a steady rise to the highest levels at 40 years or more. By contrast, in Czechoslovakia, the ratio has increased at all times from the youngest to the oldest age-group. Denmark and Finland moved from this pattern to the "Western" pattern in the 1960s; the German Democratic Republic, Hungary and Singapore did so during the 1970s.

Further breakdown of the "19 or less" group into younger and older teenagers reveals that among teenagers, abortion ratios are lowest at 18–19 years in Czechoslovakia, the German Democratic Republic and Hungary (Table 7 and Figure 6). The abortion ratio among teenagers who conceive before age 15 shows extreme variation. In Denmark, Norway and Sweden, about nine out of 10 such women terminate their pregnancies by abortion. In Finland and England and Wales, the proportion is about two-thirds, and in Canada, the Netherlands and New Zealand, it is about one-half. Almost six in 10 very young teenagers who become pregnant carry to term in the United States, as do around two-thirds in Czechoslovakia, the German Democratic Republic and Hungary. These variations appear to reflect differing attitudes toward early childbearing and abortion.

Parity

The term "parity," as used in this fact book, is somewhat ambiguous. Some countries use it to denote prior deliveries; others, prior live births; and still others, surviving children. Where infant and later childhood mortality are low, these differences are of little importance.

As shown in Table 8, the percentage distribution by parity of women who have abortions reveals major differences among countries. In countries where

Table 5. Legal abortion rate by age of woman at termination and total abortion rate, per 1,000 women: Selected areas and years

Area and year	19 or less[1]	20–24	25–29	30–34	35–39	40 or more[2]	Total abortion rate
Canada							
1974	13.6	14.1	9.7	7.1	5.2	2.3	260
1975	13.7	13.8	10.0	6.8	4.9	2.4	258
1976	14.6	15.1	10.9	7.4	5.0	2.5	278
1977	15.3	15.9	11.2	7.5	4.9	2.4	286
1978	16.3	17.2	11.9	7.8	5.0	2.4	303
1979	17.0	18.1	12.2	7.9	4.8	2.1	311
1980	16.9	18.2	12.1	7.9	4.6	2.1	308
1981	16.3	18.0	11.9	7.7	4.4	1.9	301
1982	16.2	18.5	12.0	7.9	4.5	1.9	305
1983	14.7	17.3	11.2	7.5	4.4	1.7	284
1984	14.7	17.6	11.5	7.5	4.5	1.7	288
Czechoslovakia							
1959–63	8.9	30.9	46.1	45.5	33.4	15.2	900
1964–68	9.9	37.5	46.8	43.0	30.5	11.6	896
1969–73	12.5	39.8	48.0	42.9	30.0	11.1	921
1974	11.0	32.3	39.8	36.3	26.8	10.2	782
1975	11.2	31.5	38.0	34.1	25.8	10.1	754
1976	10.8	32.0	39.2	36.6	26.3	10.2	776
1977	9.6	32.1	42.1	38.9	27.8	11.0	808
1978	10.0	34.3	43.3	40.1	27.5	10.5	828
1979	10.6	34.6	44.5	39.4	27.8	10.5	837
1980	10.8	37.2	47.2	41.7	28.6	11.4	884
1981	11.9	39.4	48.9	42.7	28.5	11.1	913
1982	12.7	39.6	50.9	44.5	30.2	11.8	949
1983	13.6	40.5	51.2	44.1	30.5	11.8	959
1984	15.0	44.3	52.5	45.8	30.9	12.5	1,005
Denmark							
1963	1.6	4.8	6.6	6.0	4.3	2.6	130
1964	1.9	5.3	7.4	6.8	4.8	2.9	146
1965	2.1	5.8	8.2	7.4	6.1	3.4	165
1966	2.5	6.4	8.6	7.9	6.9	3.8	179
1967	4.4	6.4	7.8	8.5	7.9	4.4	197
1968	4.7	5.7	6.9	7.6	7.6	4.3	184
1969	6.6	6.9	8.2	8.9	8.7	5.3	223
1974	19.9	27.9	29.5	28.9	23.0	12.3	708
1975	25.1	32.5	31.9	30.8	24.3	12.5	786
1976	26.0	31.7	30.1	28.2	22.2	12.1	752
1977	25.5	30.4	28.0	26.5	21.4	10.8	713
1978	24.3	29.0	25.1	23.0	19.0	10.3	654
1979	22.5	29.3	24.8	21.9	18.1	10.0	633
1980	20.9	30.1	24.6	20.5	17.5	10.0	618
1981	20.4	30.1	24.6	21.1	16.5	9.8	613
1982	18.2	28.8	23.5	20.1	15.2	9.1	575
1983	17.6	28.7	23.2	18.6	14.5	8.3	554
England and Wales[3]							
1969	5.6	6.9	5.9	5.5	4.5	2.1	152
1970	9.4	10.5	8.7	8.2	6.5	3.1	232
1971	12.5	13.2	10.7	10.0	8.0	3.6	290
1972	15.0	15.5	12.1	11.3	9.0	3.9	334
1973	16.2	15.9	12.1	11.3	8.9	4.3	344
1974	16.4	16.0	11.7	10.6	8.4	4.1	336
1975	16.2	15.4	11.2	10.1	7.9	4.0	324
1976	15.6	14.5	10.7	9.5	7.5	3.7	308
1977	15.7	14.7	10.6	9.1	7.4	3.9	307
1978	16.1	16.0	11.8	9.9	8.0	4.0	329
1979	17.3	17.5	12.5	10.4	8.3	4.0	350
1980	18.1	18.8	13.4	10.7	8.5	4.2	368
1981	17.6	19.1	13.3	10.3	8.1	3.9	361
1982	17.5	18.5	13.2	10.1	7.7	3.7	354
1983	17.6	18.0	13.1	10.0	7.3	3.4	347
1984	19.0	19.5	14.0	10.3	7.3	3.3	367
Finland							
1958–62	1.2	5.1	9.2	9.7	8.0	4.9	190
1963–67	1.6	5.2	7.4	8.1	6.5	4.1	164
1968	2.4	6.0	7.8	9.0	7.8	4.9	190

Note: For sources, see Table 2.

1. Per 1,000 women 15–19.
2. Per 1,000 women 40–44.
3. Residents only.

Table 5 (continued)

Area and year	19 or less[1]	20–24	25–29	30–34	35–39	40 or more[2]	Total abortion rate
Finland (continued)							
1969	3.9	7.6	9.6	10.5	9.8	7.3	244
1970	8.0	14.0	16.1	17.2	16.3	13.2	424
1974	18.5	28.3	22.9	22.2	19.5	16.8	641
1975	21.2	26.0	22.0	17.6	17.1	15.0	594
1976	20.4	25.0	17.4	16.3	16.3	14.2	548
1977	19.6	22.0	16.1	14.5	13.7	12.2	489
1978	19.8	21.4	15.4	13.0	11.7	11.5	464
1979	19.5	20.2	13.6	12.1	10.4	10.7	432
1980	19.4	19.7	12.2	11.0	10.3	9.7	412
1981	17.9	18.3	11.5	10.2	9.9	9.2	385
1982	17.9	18.7	11.0	9.8	9.5	8.2	376
1983	17.1	18.4	10.9	9.3	9.1	7.5	362
German Democratic Republic							
1973	19.6	42.4	48.4	41.4	30.0	11.4	966
1974	19.1	35.5	40.9	38.1	28.2	10.3	860
1975	17.3	29.9	34.5	33.6	25.5	11.3	760
1976	16.9	26.2	31.3	31.3	24.4	11.4	708
Hungary							
1957–61	21.2	96.0	118.5	93.5	60.2	24.1	2,068
1962–66	31.3	117.1	138.7	1.7	64.0	22.9	2,428
1967–71	36.9	128.7	144.2	116.9	72.6	24.7	2,620
1972	56.6[4]	114.8	113.9	96.3	64.5	19.4	2,328
1973	39.1	100.4	108.0	97.2	70.1	28.8	2,218
1974	26.6	52.5	54.6	55.8	50.1	22.9	1,312
1975	26.5	50.0	51.6	51.7	47.1	21.8	1,244
1976	26.6	48.5	49.8	50.0	44.8	21.1	1,204
1977	27.8	45.8	47.5	47.2	41.9	20.6	1,154
1978	27.3	41.8	45.0	45.0	39.0	19.1	1,086
1979	26.7	39.9	43.8	43.6	37.5	19.3	1,054
1980	26.5	39.0	44.7	45.3	37.9	19.8	1,066
1981	26.0	38.0	42.6	44.1	36.4	19.7	1,034
1982	26.4	38.9	42.4	43.2	37.9	19.6	1,042
1983	26.2	39.8	40.7	43.9	38.6	19.6	1,044
Netherlands[3,5]							
1978	4.5	5.9	5.6	5.4	4.8	3.0	146
1979	4.6	6.6	6.5	5.7	5.0	2.5	154
1980	5.3	8.5	7.6	6.6	5.0	2.7	179
1981	5.8	9.2	8.1	6.8	5.2	2.5	188
1982	5.6	9.0	7.8	6.6	4.9	2.6	183
1983	5.3	8.6	7.2	6.1	4.5	2.2	170
1984	4.7	8.0	7.1	6.0	4.4	2.2	161
New Zealand							
1976	10.1	10.2	6.6	5.6	4.1	2.2	194
1977	11.9	11.5	7.7	6.1	4.6	2.3	220
1978	3.8	3.7	3.2	2.8	2.3	1.9	88
1979	6.6	7.0	5.8	4.6	3.6	2.5	150
1980	10.8	13.1	9.7	6.7	4.7	2.7	238
1981	12.7	15.0	10.5	7.9	4.8	2.5	267
1982	13.1	15.2	10.5	7.5	4.6	2.5	267
1983	13.3	15.9	11.0	7.5	4.3	2.4	272
Norway							
1976	22.8	24.2	19.0	17.5	15.5	10.0	545
1977	25.5	24.9	19.1	17.6	15.9	10.2	566
1978	25.4	23.3	18.1	16.0	13.8	9.5	530
1979	24.4	23.4	18.1	15.3	12.3	8.5	510
1980	22.6	22.3	16.3	13.8	11.4	7.7	470
1981	23.1	21.9	17.0	14.4	10.8	7.0	471
1982	20.9	22.2	15.6	14.0	11.4	6.6	454
1983	20.7	23.1	16.1	13.8	10.6	6.4	454
1984	21.0	24.4	17.0	13.7	10.7	6.1	465
Scotland[6]							
1976	11.5	10.8	7.4	6.5	5.8	3.1	226
1977	12.5	11.1	7.7	6.3	5.2	3.1	230

[4] See footnote 4 to Table 3.

[5] See footnote 5 to Table 4.

[6] Including residents of Scotland obtaining abortions in England.

Area and year	19 or less[1]	20–24	25–29	30–34	35–39	40 or more[2]	Total abortion rate
Scotland[6] (continued)							
1978	11.1	11.5	7.9	6.9	5.4	2.8	228
1979	10.9	12.4	8.1	7.0	5.8	2.9	236
1980	12.1	13.1	8.2	6.2	5.1	2.6	236
1981	13.0	14.1	9.5	7.0	5.5	2.6	259
1982	12.5	13.4	8.4	6.2	4.9	2.2	238
1983	12.2	13.4	8.8	6.1	4.5	2.1	236
Singapore							
1970	0.3	2.0	5.1	8.6	8.7	7.0	158
1971	0.8	3.8	9.6	14.0	13.0	9.1	252
1972	0.7	4.3	9.4	14.3	13.2	8.2	251
1973	1.4	8.2	15.3	18.6	16.5	11.3	356
1974	3.2	12.3	19.7	23.0	19.7	13.0	454
1975	7.6	26.9	32.8	36.3	27.2	19.9	754
1976	8.2	32.6	39.2	41.4	30.1	22.6	870
1977	9.5	35.0	41.1	40.5	27.7	19.9	868
1978	10.3	36.6	42.9	37.9	26.7	18.7	866
1979	10.1	37.0	40.3	35.6	23.9	16.2	816
1980	11.6	36.1	40.7	35.9	25.1	15.1	822
1981	11.2	37.1	41.9	34.8	25.9	14.4	827
1982	11.3	36.6	41.7	35.3	24.5	12.8	811
1983	12.1	36.4	40.3	33.7	24.0	11.9	792
Sweden							
1956–60	1.2	2.0	3.1	3.1	2.6	1.5	68
1961–65	2.2	2.9	3.5	3.4	2.8	1.7	82
1966–70	9.0	8.3	7.8	7.9	6.8	3.9	218
1971	16.8	14.8	12.3	11.7	9.8	5.4	354
1972	21.4	19.3	15.9	14.1	12.1	5.8	443
1973	23.2	21.6	17.1	14.8	12.2	6.3	476
1974	28.6	24.9	20.5	17.2	13.8	6.9	560
1975	29.7	27.9	21.3	18.0	14.7	8.2	599
1976	28.5	26.6	20.9	18.4	15.0	8.3	588
1977	26.2	25.8	21.4	17.5	14.1	8.7	568
1978	23.9	25.5	21.2	19.0	15.8	9.0	572
1979	22.7	27.5	23.0	20.7	18.3	11.4	618
1980	22.2	28.5	22.1	20.6	18.2	11.3	614
1981	20.6	27.5	21.7	19.6	16.5	9.9	579
1982	19.8	27.7	21.6	19.0	15.8	9.9	569
1983	17.9	26.1	20.9	18.5	15.2	9.1	539
1984	17.6	26.7	20.4	17.9	15.0	9.1	534
Tunisia							
1977	1.2	12.9	26.6	36.0	30.9	15.8	617
United States[7]							
1973	23.9	26.2	16.9	10.9	7.1	2.9	437
1974	28.2	30.4	19.6	13.0	8.4	3.3	514
1975	32.5	34.3	21.8	14.0	8.9	3.6	576
1976	35.8	39.6	24.1	15.0	9.3	3.7	638
1977	39.0	44.3	26.9	15.7	9.8	3.9	698
1978	41.1	47.2	28.4	16.4	9.8	3.6	732
1979	43.9	49.9	29.6	16.5	9.4	3.4	764
1980	44.4	51.4	30.8	17.1	9.3	3.5	782
1981	44.8	51.1	31.4	17.7	9.5	3.4	790
1982	44.3	51.2	31.5	17.7	9.3	3.3	787

[7] Rates based on numbers of abortions reported to the AGI and age distributions reported to the CDC.

most women obtaining abortions are childless, abortion is relied on primarily to postpone childbearing, while in other countries, it is frequently relied on by high-parity women who want no more children. In recent years, women who have had no prior births were in the majority among all women obtaining legal abortions in Canada, England and Wales, Finland, the Netherlands, New Zealand, Scotland and the United States. They were the largest group in Denmark, the German Federal Republic, Singapore and Sweden. Some of these women may have been pregnant before and have terminated all prior pregnancies by abortion. Women at parity two represented higher proportions

Continued on page 64

Note: For sources, see Table 2.

1. Known pregnancies are defined as legal abortions plus live births six months later.
2. Residents only.

Table 6. Legal abortion ratio per 100 known pregnancies,[1] by age of woman at conception: Selected areas and years

Area and year	19 or less	20-24	25-29	30-34	35-39	40 or more
Canada						
1975	23.7	10.0	7.0	10.5	22.0	37.2
1976	25.8	11.2	7.9	11.1	23.1	41.7
1977	27.6	12.0	8.1	11.1	23.7	42.8
1978	30.1	13.2	8.4	11.4	25.0	43.9
1979	31.9	14.0	8.6	11.4	24.2	43.3
1980	32.2	14.2	8.6	11.3	23.1	43.4
1981	32.0	14.5	8.6	11.3	21.9	42.3
1982	32.5	15.1	8.8	11.3	21.6	43.6
1983	31.5	14.7	8.2	10.5	20.7	42.7
1984	31.0	15.1	8.3	10.3	21.2	43.0
Czechoslovakia						
1959–63	12.0	13.8	27.6	43.8	57.3	66.9
1964–68	14.0	17.8	29.8	46.1	59.9	69.7
1969–73	15.9	18.2	29.5	46.0	63.7	73.6
1974	13.4	13.2	23.6	40.7	60.6	75.4
1975	13.0	12.8	23.6	41.1	60.9	76.2
1976	12.8	13.4	24.7	42.5	61.5	77.7
1977	11.6	13.5	26.6	44.6	63.8	79.5
1978	12.2	14.3	27.4	46.2	64.7	80.0
1979	13.0	14.9	28.9	47.9	67.6	80.8
1980	14.3	16.6	32.4	52.3	70.3	82.9
1981	15.4	17.0	32.9	53.3	70.6	83.9
1982	15.9	17.3	34.4	54.8	72.0	86.2
1983	16.5	17.6	34.4	54.7	72.8	87.0
Denmark						
1963	2.4	2.7	4.1	6.9	11.2	22.9
1964	2.8	3.0	4.7	8.0	12.6	25.9
1965	3.0	3.3	5.1	8.5	15.7	30.7
1966	3.5	3.7	5.6	9.5	18.6	35.7
1967	6.1	4.1	5.7	11.5	23.1	43.1
1968	7.1	4.1	5.3	11.1	24.5	46.5
1969	10.7	5.0	6.3	13.0	28.2	53.1
1974	34.4	16.3	19.0	34.3	59.9	80.6
1975	40.7	19.0	20.6	36.4	63.1	81.6
1976	44.6	20.2	21.1	36.3	62.7	82.9
1977	45.2	19.8	19.5	35.3	62.1	83.4
1978	46.2	19.5	17.7	32.6	58.9	84.1
1979	46.8	20.6	17.9	32.2	57.9	83.9
1981	50.7	23.2	18.4	32.0	56.3	85.7
1982	49.7	23.1	17.7	30.1	54.6	85.5
England and Wales[2]						
1969	7.3	4.4	3.5	8.1	12.4	20.8
1970	11.2	6.4	5.6	10.4	17.8	28.5
1971	15.3	8.5	7.2	13.5	23.1	35.1
1972	18.8	10.2	8.6	16.1	27.5	41.7
1973	21.4	11.0	9.1	16.9	30.6	45.7
1974	24.9	11.1	8.7	17.5	32.1	47.8
1975	26.7	11.2	8.8	17.0	33.0	49.2
1976	28.2	11.2	8.8	15.7	33.8	49.8
1977	29.0	11.3	8.5	14.5	33.6	50.9
1978	28.6	11.6	8.6	14.2	33.1	50.5
1979	30.0	12.3	8.8	14.2	32.8	50.5
1980	31.9	13.4	9.4	14.7	32.7	51.6
1981	32.5	14.2	9.5	14.7	30.7	51.1
1982	32.9	14.4	9.6	14.1	28.7	50.8
1983	33.3	14.4	9.5	13.6	27.8	48.9
1984	34.6	15.9	10.1	13.6	27.2	48.9
Finland						
1958-62	2.6	3.2	5.9	9.3	12.6	17.1
1963–67	3.4	3.6	5.4	8.9	12.9	19.1
1968	4.9	4.9	6.9	12.0	19.4	28.7
1969	7.1	6.4	8.8	14.8	25.1	44.4
1974	33.8	20.3	17.6	31.0	48.6	77.4
1975	37.2	18.8	16.6	24.3	44.5	75.7

Area and year	19 or less	20-24	25-29	30-34	35-39	40 or more
Finland (continued)						
1976	37.7	18.6	13.5	21.6	43.8	74.6
1977	38.8	17.4	12.8	19.2	39.6	71.7
1978	40.9	17.1	12.2	17.2	35.3	69.1
1979	42.2	16.6	10.9	16.4	32.2	66.8
1981	42.7	15.4	8.7	13.9	27.9	64.5
1982	43.4	15.5	8.1	12.7	25.4	62.1
1983	42.9	15.7	7.8	11.6	24.7	61.3
German Democratic Republic						
1973	21.0	24.1	47.0	61.8	76.8	87.5
1974	20.2	21.0	42.2	61.5	77.5	88.2
1975	18.8	17.5	35.9	59.8	76.5	88.3
Hungary						
1957–61	24.8	38.9	54.3	65.7	73.2	77.1
1962–66	35.1	45.5	59.7	71.8	78.7	82.9
1967–71	36.0	45.6	58.7	71.4	81.5	86.2
1972	45.6[3]	42.3	54.6	69.6	81.0	84.7
1973	35.4	37.9	51.4	67.9	81.9	89.4
1974	23.6	21.7	30.8	50.8	74.5	86.0
1975	23.3	21.9	31.1	51.6	74.9	87.0
1976	22.8	22.0	32.1	53.1	75.0	87.0
1977	23.3	21.5	32.5	53.0	75.1	87.2
1978	23.2	20.6	32.3	54.4	75.2	87.7
1979	23.4	20.3	32.3	55.8	75.7	88.5
1980	24.3	20.2	32.7	56.9	77.3	89.0
1981	25.6	20.9	32.6	57.3	78.0	89.6
1982	26.9	21.5	33.4	57.8	79.1	90.0
1983	27.9	21.5	32.6	58.4	79.6	90.2
Netherlands[2,4]						
1981	29.9	9.9	5.6	10.7	27.4	43.8
1982	29.8	10.1	5.6	10.4	26.4	45.9
1983	30.2	10.1	5.3	9.3	25.0	44.5
New Zealand						
1976	13.9	6.0	4.4	8.6	17.7	28.3
1977	17.0	6.9	5.1	9.6	20.6	30.1
1978	6.6	2.5	2.2	4.5	11.8	29.1
1979	11.7	4.8	3.9	7.1	17.5	37.2
1980	18.4	8.7	6.3	10.0	22.2	40.7
1981	21.9	10.4	6.8	11.6	22.5	40.2
1982	23.5	10.9	6.8	10.6	21.4	40.4
1983	24.1	11.6	7.3	10.6	20.6	41.2
Norway						
1976	33.6	15.8	14.4	24.0	46.5	71.8
1977	38.5	16.9	14.4	24.4	48.5	73.1
1978	39.5	15.9	13.3	22.3	43.8	72.9
1979	40.3	16.4	13.4	21.9	40.9	72.5
1981	42.1	15.9	12.6	20.2	37.7	71.6
1982	41.9	16.7	11.6	19.3	38.6	72.0
1983	43.1	17.8	12.1	18.8	37.0	73.0
Scotland[5]						
1976	21.3	8.3	6.1	11.6	28.0	46.4
1977	21.1	8.6	6.2	10.8	26.5	48.1
1978	20.8	8.7	5.9	10.9	25.7	46.5
1979	20.7	9.3	5.9	10.7	26.4	47.5
1980	22.7	9.7	6.0	9.6	24.0	45.4
1981	24.8	10.8	7.1	11.3	24.5	47.1
1982	24.6	10.7	6.5	9.9	22.6	44.0
1983	24.6	11.0	6.9	9.6	21.1	43.5
Singapore						
1970	0.8	1.5	2.5	6.3	12.0	22.7
1971	2.0	2.7	4.3	10.0	17.8	30.6
1972	2.2	3.8	4.4	10.6	19.3	30.8
1973	4.0	5.9	7.7	15.2	26.8	43.9

[3] See footnote 4 to Table 4.

[4] See footnote 5 to Table 4.

[5] Including residents of Scotland obtaining abortions in England.

Table 6 (continued)

Area and year	19 or less	20–24	25–29	30–34	35–39	40 or more
Singapore (continued)						
1974	10.8	9.2	10.6	21.9	36.4	55.8
1975	24.4	18.6	17.0	31.3	47.1	72.1
1976	27.5	22.5	20.7	33.4	52.8	78.2
1977	33.9	26.2	22.8	34.2	55.4	79.2
1978	36.5	27.3	23.0	31.7	56.0	73.0
1979	36.4	28.5	22.1	30.4	54.6	75.2
1981	40.3	30.1	23.9	32.6	52.7	76.4
1982	41.1	30.3	23.9	32.2	49.5	78.7
1983	43.8	31.6	24.6	32.6	51.4	81.1
Sweden						
1956–60	2.2	1.5	2.3	3.8	6.5	11.7
1961–65	3.5	2.0	2.4	4.0	7.4	15.3
1966–70	13.4	6.2	5.8	10.5	20.4	38.2
1971	23.9	10.5	9.1	16.0	30.8	53.0
1972	29.4	13.3	11.6	18.8	36.5	57.8
1973	31.8	14.7	12.5	19.5	37.7	62.3
1974	40.9	16.2	14.5	23.0	43.9	67.7
1975	44.8	18.3	15.7	24.1	47.8	73.2
1976	46.4	18.8	15.6	25.1	48.2	73.7
1977	46.9	19.0	16.0	24.1	45.8	75.0
1978	47.0	19.3	15.4	24.7	45.6	74.6
1979	47.8	20.6	16.0	25.2	47.4	78.3
1981	50.5	21.9	15.4	23.3	44.7	76.1
1982	51.4	22.5	15.2	22.3	42.6	75.7
1983	50.5	21.9	14.6	21.4	41.4	74.4
1984	51.8	22.7	13.9	19.9	39.0	70.5
United States[6]						
1973	25.6	17.6	13.2	18.7	28.3	39.7
1974	29.0	20.0	15.4	21.7	32.8	44.4
1975	33.4	22.8	17.2	23.5	35.4	48.6
1976	35.8	25.0	18.6	23.1	36.6	50.2
1977	38.4	27.6	20.2	23.7	38.5	52.5
1978	39.6	28.7	20.8	23.5	38.6	51.6
1979	40.7	29.4	21.1	23.0	37.3	50.4
1980	41.2	30.1	21.8	23.3	37.2	51.7
1981	41.2	30.4	22.0	23.9	35.7	51.3
1982	41.2	30.6	22.3	23.2	34.2	51.4

of those obtaining abortions than women at parities one or three in most countries, with the highest proportions reported in Czechoslovakia and Hungary. In recent years, the share represented by high-parity women was substantial only in India and, especially, in Tunisia. In some countries, major shifts have taken place over the past few years. In Singapore, for instance, less than one percent of women obtaining legal abortions in 1970 were nulliparous, whereas 53 percent had had at least five births. By 1983, the proportion who were nulliparous had increased to 38 percent, while women who had had five or more prior births made up only two percent.

Parity-specific abortion ratios per 100 known pregnancies are shown in Table 9 and Figure 7. Three distinct patterns emerge. In the six countries of Western Europe and North America shown in the table, the abortion ratio declines from a higher value among women who have had no prior births to a minimum among those who have had one birth, climbs again to a maximum at three or four, and then declines once more. In the two Eastern European countries for which data are available, the pattern is similar, except that the lowest ratio is found among women at parity zero. In Hungary, the maximum moved from parity two to parity three after restrictive legislation came into force in 1974; in Czechoslovakia, it remained at parity three from 1965 through 1983. In Singapore, the ratio was higher with each additional birth through 1974. Since 1975, the pattern has been that the ratio

[6] Ratios based on numbers of abortions reported to the AGI and age distributions reported to the CDC.

drops between parities zero and one, but continues to increase with parity thereafter.

The decline in abortion ratios at higher parities in all European countries and in North America probably reflects a common factor—the long-established small-family norm. In each country, however, there are women who avoid abortion for religious or other reasons and who are, therefore, overrepresented in the high-parity groups. The parity at which the abortion ratio is highest corresponds to the number of children beyond which additional births become unacceptable to a substantial proportion of women. In England and Wales, the drop at the highest parity appeared first in 1970 and became marked in 1971 and thereafter. This pattern may reflect the relatively restrictive abortion practices in earlier years, which made termination of pregnancy more easily obtainable by women of high parity than by those who had smaller families. In Singapore, the small-family norm is relatively recent, and women of high parity, therefore, do not yet include a substantial group rejecting abortion.

The higher abortion ratios among childless women in Western countries (and now also in Singapore) reflect a high proportion of unmarried women among those accidentally pregnant. Married women rarely terminate their first pregnancies by induced abortion. It remains an open question whether the absence of an elevated abortion ratio at zero parity in Eastern Europe reflects a relative paucity of premarital pregnancies or whether such pregnancies end in marital births. The very high abortion ratio for Hungarian women who have had one prior birth, especially before 1974, suggests widespread reliance on abortion as a method of childspacing rather than of family limitation.

Marital Status

The distribution by marital status of women obtaining legal abortions also reveals major differences among areas, as is shown in Table 10. During the most recent years, the proportion of women who were married when they obtained their abortions was highest in India (93 percent) and also was high in Czechoslovakia (78 percent), Singapore (73 percent), Italy (71 percent) and Hungary (70 percent). In the remaining countries, the proportion was 50 percent or less. It was lowest in the United States (20 percent), Canada (24 percent) and New Zealand (26 percent). Over the past few years, the proportion married has declined in all countries except Czechoslovakia, Hungary and Norway. In the West, these declines to a large extent reflect changes in the marital status of the population resulting from lower marriage rates and higher divorce rates.

Table 7. Measures of abortion among women under 20 years of age: Selected areas, latest available year

Measure and area	Year	Age of woman[1]		
		14 or less	15–17 years	18–19 years
Percentage of all women obtaining abortions				
Canada	1984	0.7	9.7	13.1
Czechoslovakia	1983	0.0	2.1	4.6
Denmark	1982	0.4	7.0	9.7
England and Wales[2]	1984	0.8	13.5	13.4
Finland	1983	0.2	10.0	13.0
France	1982	0.2	3.9	8.2
German Democratic Republic	1976	0.1	6.4	7.0
German Federal Republic	1984	0.1	4.0	7.0
Hungary	1983	0.2	4.5	6.0
Italy	1983	0.1	3.2	4.9
Netherlands[2,3]	1983	0.3	6.6	9.9
New Zealand	1983	1.2	12.5	13.4
Norway	1983	0.5	11.2	12.7
Sweden	1983	0.5	7.0	9.7
United States	1982	0.9	10.7	15.9
Abortion rate per 1,000[4]				
Canada	1984	1.2	10.7	18.8
Czechoslovakia	1983	0.2	7.2	22.2
Denmark	1982	1.1	12.2	26.6
England and Wales[2]	1984	1.4	15.9	22.3
Finland	1983	0.4	12.5	21.4
German Democratic Republic	1976	0.4	12.8	23.0
Hungary	1983	1.2	17.9	38.0
Netherlands[2,3]	1983	0.2	3.6	7.7
New Zealand	1983	1.4	10.2	16.4
Norway	1983	1.0	15.7	27.2
Sweden	1983	1.3	12.4	24.8
United States	1982	4.2	30.1	60.0
Abortion ratio per 100 known pregnancies[5]				
Canada	1984	45.4	36.4	27.0
Czechoslovakia	1983	37.2	21.5	14.6
Denmark	1982	86.8	66.1	40.6
England and Wales[2]	1984	64.4	43.5	27.3
Finland	1983	67.3	57.8	34.7
German Democratic Republic	1975	33.1	23.6	15.9
Hungary	1983	29.3	32.3	25.0
Netherlands[2,3]	1982	51.6	43.0	23.7
New Zealand	1983	49.0	28.9	19.5
Norway	1983	90.3	56.1	34.2
Sweden	1983	89.7	66.2	41.4
United States	1982	42.9	42.0	40.5

Note: For sources, see Table 2.

[1] First two measures are by age at termination; ratios are by age at conception.

[2] Residents only.

[3] See footnote 5 to Table 4.

[4] Rates for abortions among women 14 years or younger are computed per 1,000 women aged 13–14.

[5] Known pregnancies are defined as legal abortions plus live births six months later.

Continued on page 69.

Table 8. Percentage distribution of women who obtain legal abortions, by parity:[1] Selected areas and years

Area and year	Parity					
	0	1	2	3	4	5 or more
Canada[2]						
1974	58.0	14.4	14.4	7.4	3.3	2.5
1975	58.5	14.6	14.8	7.1	2.9	2.1
1976	58.9	15.3	15.0	6.5	2.5	1.8
1977	60.3	15.9	14.3	5.9	2.2	1.4
1978	61.2	16.1	14.2	5.6	1.9	1.0
1979	63.1	15.8	13.6	5.0	1.6	0.9
1980	63.6	16.0	13.4	4.8	1.4	0.8
1981	63.3	16.3	13.9	4.5	1.3	0.7
1982	63.1	16.8	13.7	4.5	1.3	0.6
1983	62.2	17.4	14.1	4.5	1.2	0.5
1984	61.1	18.0	14.4	4.6	1.3	0.5
Czechoslovakia[3]						
1965–69	13.5	18.9	33.1	20.4	7.5	6.7
1970–74	16.2	20.3	37.7	16.8	5.2	3.8
1975	15.5	17.0	41.4	17.8	5.0	3.3
1976	13.9	16.8	42.9	18.4	5.0	3.0
1977	12.7	16.5	44.5	18.8	4.8	2.7
1978	11.6	15.8	46.1	19.5	4.5	2.5
1979	11.4	15.7	46.9	19.3	4.5	2.2
1980	11.1	15.9	47.5	19.4	4.2	1.9
1981	11.2	16.1	47.8	19.1	4.0	1.8
1982	11.0	16.0	48.4	19.0	3.9	1.7
1983	11.3	16.2	48.5	18.9	3.7	1.5
1984	11.5	17.0	48.2	18.4	3.5	1.4
Denmark[4]						
1974	28.6	16.3	28.8	16.7	6.8	2.8
1975	31.1	16.3	28.1	16.2	5.9	2.4
1976	33.8	16.9	27.1	14.9	5.1	2.2
1977	34.8	17.0	27.6	14.0	4.6	2.0
1978	37.3	17.3	26.7	13.2	3.8	1.7
1979	38.5	17.6	26.6	12.0	3.7	1.6
1980	39.3	18.9	25.9	11.4	3.4	1.1
1981	40.4	18.8	26.4	10.5	2.8	1.1
1982	41.3	19.0	26.3	10.2	2.3	0.9
1983	43.5	19.0	25.4	9.0	2.3	0.8
England and Wales[5,6]						
1968	46.5	10.6	15.2	12.3	7.6	7.8
1969	43.3	10.8	16.6	13.2	7.8	8.3
1970	44.1	10.9	17.1	13.3	7.7	6.9
1971	46.2	11.0	17.4	12.9	6.9	5.6
1972	46.6	11.6	17.9	12.7	6.4	4.8
1973	47.9	11.8	18.9	11.6	5.4	4.4
1974	49.0	12.2	18.7	11.5	5.2	3.4
1975	49.7	12.4	18.8	11.1	5.0	3.0
1976	50.6	12.5	18.9	10.7	4.6	2.7
1977	51.8	12.5	19.0	10.3	4.1	2.3
1978	52.1	13.0	19.1	9.9	3.8	2.1
1979	53.6	12.9	19.0	9.3	3.4	1.8
1980	54.6	12.9	18.6	8.9	3.3	1.7
1981	54.1	13.4	18.9	8.9	3.1	1.6
1982	55.1	13.5	18.6	8.4	2.9	1.5
1983	56.1	13.7	18.0	8.1	2.8	1.4
1984	57.5	13.6	17.5	7.6	2.6	1.2
Finland[2]						
1958–62	17.1	12.5	20.1	18.0	12.8	19.5
1963–67	27.8	12.7	19.6	16.5	10.4	13.1
1968	33.0	13.0	19.8	15.2	8.8	10.2
1969	31.6	13.2	20.1	15.6	9.5	10.0
1970	32.4	14.3	19.1	14.5	10.2	9.5
1973	41.0	16.0	20.5	11.8	6.1	4.6
1974	43.4	16.7	19.8	10.9	6.2	3.0
1975	45.9	16.3	21.3	9.1	5.0	2.4
1976	46.3	17.3	20.5	9.6	4.3	2.0
1977	47.2	17.8	19.5	9.3	4.1	2.1

Note: For sources, see Table 2.

1. Women of unknown parity distributed pro rata.
2. Prior deliveries.
3. Surviving children.
4. Prior live births.
5. Residents only.
6. For 1968–79 includes prior live births only; for 1980–84 prior live births and stillbirths.
7. Based on 77 percent of reported abortions.
8. See footnote 5 to Table 4.

Area and year	Parity					
	0	1	2	3	4	5 or more
Finland[2] (continued)						
1978	49.1	17.2	19.5	9.0	3.5	1.7
1979	50.6	17.1	18.8	8.8	3.3	1.4
1980	51.8	16.4	19.2	8.5	2.8	1.3
1981	51.4	16.0	19.8	8.7	3.0	1.1
1982	51.9	16.6	19.4	8.8	2.5	0.8
1983	53.0	16.4	19.0	8.3	2.5	0.8
German Federal Republic[4]						
1977	34.6	17.6	23.9	13.1	5.9	4.9
1978	38.3	17.7	23.1	11.6	5.1	4.2
1979	42.8	17.1	21.9	10.4	4.4	3.4
1980	44.2	17.0	21.5	9.9	4.2	3.2
1981	46.1	17.0	21.2	9.1	3.8	2.8
1982	44.8	18.5	21.7	8.9	3.5	2.6
1983	44.9	19.2	21.7	8.6	3.3	2.3
1984	44.8	19.9	21.8	8.4	3.1	2.0
Hungary[4]						
1959–62	13.0	28.5	31.3	27.2		
1963–66	15.6	30.4	31.2	22.8		
1967–70	16.4	33.3	32.1	18.2		
1971	18.6	32.8	33.1	9.1	6.4	
1972	19.5	32.5	33.2	8.8	6.0	
1973	19.8	30.4	33.7	9.6	6.5	
1974	24.2	23.1	33.5	11.6	7.6	
1975	24.2	21.9	35.1	11.8	7.0	
1976	23.4	21.4	35.9	12.4	3.8	3.1
1977	22.8	21.1	36.6	12.8	3.7	3.0
1978	21.9	21.1	37.4	13.0	3.7	2.9
1979	21.0	20.9	38.5	13.3	3.7	2.6
1980	19.8	20.8	39.8	13.4	3.6	2.6
1981	19.7	20.5	40.2	13.5	3.6	2.5
1982	19.1	20.6	40.4	13.7	3.6	2.6
1983	19.1	20.4	40.7	13.8	3.6	2.5
India						
1972–75	11.1	13.6	22.4	20.9	32.0	
Italy[2,7]						
1983	23.8	21.4	31.8	14.1	8.9	
Netherlands[3,5,8]						
1979	47.6	14.9	20.9	9.2	4.0	3.4
1980	49.6	14.7	21.1	8.5	3.3	2.8
1981	54.1	14.2	19.2	8.0	3.3	2.8
1982	54.8	14.0	18.8	7.9	2.8	1.7
1983	56.5	13.8	17.9	7.7	2.5	1.5
1984	56.6	13.8	18.3	7.3	2.4	1.6
New Zealand[4]						
1978	46.2	11.2	16.7	13.6	6.6	5.7
1979	48.3	12.7	17.1	11.6	5.9	4.4
1980	54.5	13.7	15.6	9.5	3.8	2.9
1981	54.3	13.5	16.2	9.5	4.1	2.4
1982	55.5	14.1	14.8	9.3	3.8	2.4
1983	54.8	15.0	14.6	9.7	3.7	2.2
Scotland[3]						
1968	30.1	9.0	15.7	15.7	12.6	16.9
1969	33.6	9.7	14.6	16.9	12.0	13.2
1970	35.6	9.1	15.4	16.3	11.7	11.9
1971	35.5	9.5	17.4	16.2	11.7	9.7
1972	37.2	10.9	17.8	16.2	9.4	8.5
1973	40.4	11.5	19.1	14.4	8.6	6.0
1974	40.8	11.8	20.4	14.6	7.5	4.9
1975	43.2	13.0	19.6	13.9	5.9	4.4
1976	46.6	13.2	18.6	12.0	5.9	3.7
1977	47.6	13.1	19.4	11.6	5.2	3.1
1978	48.8	13.5	18.5	11.5	4.6	3.1
1979	48.6	14.2	19.4	11.2	4.2	2.4

Table 8 (continued)

Area and year	Parity 0	1	2	3	4	5 or more
Scotland[2] (continued)						
1980	51.9	14.4	19.0	9.3	3.4	2.0
1981	52.5	15.0	18.3	9.4	3.3	1.5
1982	54.7	15.0	18.0	7.9	3.0	1.4
1983	55.1	15.1	17.6	8.2	2.8	1.3
Singapore[3]						
1970	0.5	2.7	7.4	16.5	19.5	53.4
1971	0.5	3.2	9.9	19.1	18.0	49.3
1972	1.1	4.7	15.6	19.8	18.6	40.2
1973	4.2	10.6	21.8	20.2	14.8	28.4
1974	7.5	13.3	23.5	18.7	12.7	24.3
1975	20.5	14.4	23.1	15.4	9.8	16.8
1976	24.6	15.8	24.3	14.8	8.2	12.3
1977	26.5	17.8	25.9	13.5	6.9	9.4
1978	29.8	18.6	26.1	12.0	6.1	7.4
1979	30.8	19.1	26.7	12.5	5.3	5.6
1980	33.8	18.5	26.8	12.1	4.8	4.0
1981	36.3	18.3	26.9	11.2	4.1	3.2
1982	37.0	18.7	27.1	11.2	3.6	2.3
1983	38.4	18.4	27.0	10.9	3.2	2.1
Sweden[2]						
1968	35.9	15.8	20.5	14.7	7.9	5.2
1969	37.3	16.6	20.8	13.7	7.2	4.4
1970	38.6	16.8	20.7	13.9	5.2	3.8
1971	40.5	16.8	21.1	12.7	5.8	3.1
1972	41.3	17.3	21.5	12.4	4.9	2.6
1973	41.3	17.7	22.1	12.1	4.5	2.3
1974	43.0	17.1	22.0	11.3	4.8	1.8
1975	40.0	18.7	23.6	11.8	4.0	1.9
1976	40.1	18.2	24.7	11.8	3.6	1.6
1977	39.7	19.0	25.2	11.3	3.4	1.4
1978	40.7	18.3	25.2	11.4	3.1	1.3
1979	39.2	18.3	26.3	11.7	3.3	1.2
1980	39.8	18.2	26.5	11.5	2.9	1.1
1981	41.2	18.2	25.6	11.1	2.9	1.0
1982	42.0	18.0	25.2	11.0	2.7	1.0
1983	40.9	18.1	25.9	11.3	2.9	0.9
1984	39.8	17.6	23.8	10.8	2.4	0.8
Tunisia[3]						
1974	5.6	6.4	11.2	12.6	16.3	47.9
1975	4.3	8.8	11.9	13.3	16.6	45.1
1976	5.4	9.9	13.8	13.9	17.0	40.0
1977	5.9	10.4	14.5	14.2	17.5	37.5
1978	7.1	10.4	15.2	14.7	16.9	35.7
United States[4]						
Reported to the CDC						
1972	49.4	18.2	13.3	8.7	5.0	5.4
1973	48.6	18.8	14.2	8.7	4.8	4.9
1974	47.8	19.6	14.9	8.7	4.5	4.5
1975	47.1	20.2	15.5	8.7	4.3	4.2
1976	47.7	20.7	15.4	8.3	4.1	3.8
1977	53.4	19.1	14.3	7.0	3.3	2.9
1978	56.6	19.2	14.1	5.9	4.2	
1979	58.1	19.1	13.8	5.5	3.5	
1980	58.4	19.4	13.7	5.3	3.2	
1981	58.3	19.7	13.7	5.3	3.0	
1982	57.8	20.3	13.9	5.1	2.9	
Estimated by the AGI[9]						
1973	55.2	15.4	13.9	8.1	3.9	3.5
1974	53.7	17.3	14.5	7.8	3.6	3.1
1975	52.4	18.8	15.1	7.5	3.3	2.9
1976	53.4	19.4	14.9	6.9	2.9	2.5
1977	56.4	18.9	14.2	6.1	2.5	1.9
1978	56.6	19.2	14.1	5.9	4.2	
1979	58.0	19.2	13.8	5.5	3.5	
1980	57.9	19.6	13.9	5.3	3.3	
1981	57.8	19.8	13.9	5.4	3.1	
1982	57.3	20.4	14.1	5.2	3.0	

[9] Adjusted for changes from year to year in the number of states reporting to the CDC.

As shown in Table 11, the abortion ratio per 100 known pregnancies is substantially higher in all areas among unmarried women, including never-married and previously married women, than among married women. The difference is smaller in Denmark and Sweden than in other countries, probably because childbearing outside of marriage is widely accepted in those countries. An unmarried woman can terminate a pregnancy as an out-of-wedlock birth, an out-of-wedlock abortion, or a birth within marriage. To evaluate correctly the role of abortion as an outcome of pregnancies among unmarried women, the total numbers of out-of-wedlock conceptions, including those ending in marital births, were estimated for five countries (Denmark, England and Wales, the Netherlands, Sweden and the United States). It was assumed that all infants born during the first eight months of marriage, or seven months in the Netherlands, were premaritally conceived. Adjusting the abortion ratios to marital status at conception results in lower ratios for unmarried women and higher ratios for married women.

As one would expect, a strong association exists between marital status and parity at the time of abortion. In all countries for which the relevant statistics are available, a majority of currently married women obtaining abortions have given birth to two or more children, while never-married women are usually childless. Conversely, women who have had two or more prior births tend to be married, while most nulliparous women obtaining abortions have never been married. Previously married women and women at parity one tend to occupy intermediate positions.

Socioeconomic Status

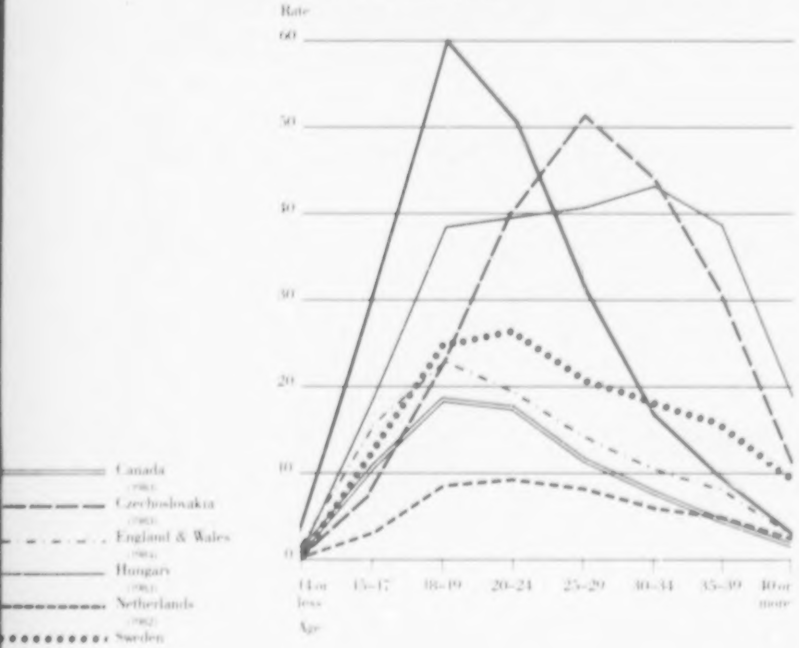
It has long been common knowledge that in many countries that have restrictive legislation, wealthy, well-educated and well-connected women find it much easier to obtain legal abortions than do women of low socioeconomic status. This differential has been most amply documented for the United States in general (Hall, 1965) and for New York City in particular (Erhardt et al., 1970). Furthermore, owing to the close association of ethnic minority status with poverty, black and other nonwhite women had lower legal abortion rates and, especially, lower abortion ratios than white women in the years preceding the liberalization of abortion laws. The ethnic differentials began to narrow during the 1960s. Following the adoption of nonrestrictive abortion policies, the situation was reversed, with nonwhite women having higher abortion rates and ratios than white women.

Little is known about the socioeconomic status of women obtaining abortions in countries with liberal laws, because the relevant data are rarely collected. Some data on the incidence of legal abortion according to occupational status are available for Aberdeen, Scotland, where relatively nonrestrictive abortion policies had been implemented for a number of years prior to the enactment of the British Abortion Act of 1967. Abortion ratios per 100 known pregnancies are shown below for single women according to their own occupation and for married women according to their husbands' occupation (Aitken-Swan, 1973). In Aberdeen, the abortion rate and ratio for 1969–71 were not only higher than those elsewhere in Scotland, but also higher than those in England and Wales.

Marital status and occupation	**1963–1968**	**1969–1971**
Single women		
Professional and student	53.7	62.5
Clerical and skilled manual	13.8	40.5
Semiskilled and unskilled	8.6	17.6
Married women		
All nonmanual	2.2	4.8
Skilled manual	2.8	6.3
Semiskilled	3.4	8.4
Unskilled	3.5	9.8

In both periods, abortion ratios were directly associated with socioeconomic status among single women and inversely associated among married

Figure 5. Legal abortion rate per 1,000 women, by age of woman: Selected areas, latest available year



women. The association was much stronger for single women.

In the United States, one investigator calculated age-standardized abortion rates by education for women aged 20 and over, using data from nine states. It was found that abortion incidence is similar for women of all educational levels, except that it is lower among the small group who have completed no more than eight years of school (Henshaw and O'Reilly, 1983). Marital status was not controlled for in that study.

In Korea, according to a house-to-house survey conducted in 1971, the percentage of women reporting abortions, the mean number of abortions per woman, and the abortion ratio per 100 pregnancies all tend to increase with higher socioeconomic status, as indicated by education of wife and occupation of husband (Hong and Watson, 1976). The same association has been found in Turkey (Tezcan et al., 1980, p. 38).

In India, according to the report for 1976/77 (India, 1984), about 60 percent of women obtaining legal abortions resided in cities and towns, 35 percent had gone beyond the primary level of education, and 18 percent stated that their families' annual income was more than 4,800 rupees (about U.S. $540). Although comparable figures for all women were not readily available, urban women with above-average education and income were clearly overrepresented. Many rural women appear to be unaware of the legality of abortion or have found the services inaccessible or unacceptable.

In all countries for which information on the incidence of abortion by size of community is available, the level is higher in urban than in rural areas, and sometimes is much higher, especially in large cities.

Ethnicity

The incidence of abortion may vary markedly by ethnic group within a country, but statistics are rarely available to document the extent to which this is the case. In the United States, abortion rates per 1,000 nonwhite women aged 15–44 (the large majority of whom are black) ranged from 2.2 to 3.0 times as high as those of white women, as may be seen below.*

Year	**Rate**		**Ratio per 100 known pregnancies**	
	White	Nonwhite	White	Nonwhite
1973	14.0	31.2	17.4	25.9
1974	15.7	41.4	19.6	31.6
1975	17.2	49.3	21.5	35.9
1976	18.8	56.3	23.0	38.9
1977	20.9	59.0	25.0	40.4
1978	22.3	58.7	26.1	39.6
1979	24.0	56.2	27.1	38.2
1980	24.3	56.8	27.4	39.2
1981	24.3	55.9	27.4	39.2
1982	23.8	55.5	27.1	39.2

* Source: Based on numbers of abortions reported to the AGI and race distribution reported to the CDC.

Table 9. Legal abortion ratio per 100 known pregnancies,[1] by parity:[2] Selected areas and years

Area and year	Parity 0	1	2	3	4	5 or more
Canada						
1975	15.9	5.7	13.0	17.8	20.3	14.5
1976	16.8	6.3	14.0	18.6	20.7	16.2
1977	17.7	6.9	14.2	18.7	21.2	15.1
1978	19.0	7.4	14.7	19.1	20.9	13.8
1979	20.0	7.5	14.5	18.0	19.6	14.1
1980	19.9	7.6	14.4	17.4	18.6	13.3
1981	19.6	7.7	14.8	16.0	16.7	11.6
1982	19.8	8.0	14.7	16.4	16.5	10.0
1983	18.6	7.6	14.1	15.5	14.8	9.5
1984	18.6	7.8	14.3	15.8	15.6	9.2
Czechoslovakia						
1965–69	11.2	19.9	55.0	65.5	58.0	47.0
1970	12.6	21.5	57.5	64.5	57.0	42.7
1971	12.7	19.5	55.7	62.2	55.6	41.1
1972	12.2	16.4	51.3	59.2	52.1	36.4
1976	9.2	11.5	47.6	58.8	52.7	39.5
1977	9.0	12.0	49.6	60.7	53.9	40.1
1978	8.8	13.8	51.3	62.7	54.1	40.8
1979	9.1	12.9	53.7	64.1	55.6	41.0
1980	10.2	14.9	58.2	67.4	57.4	40.0
1981	10.7	15.7	59.3	67.7	57.0	40.1
1982	10.8	16.7	61.3	68.8	57.9	40.3
1983	11.1	17.4	62.4	69.3	56.4	38.8
Denmark						
1974	18.2	13.5	41.6	59.2	67.2	60.6
1975	22.0	15.2	45.2	63.3	68.8	62.0
1976	24.8	16.2	46.2	64.1	67.8	60.9
1977	24.7	15.5	46.5	62.9	68.1	61.9
1978	24.6	14.9	44.9	61.5	64.4	59.3
1979	25.3	15.7	45.4	60.6	62.9	58.7
1980	26.9	17.9	46.5	61.5	63.6	52.0
1981	27.5	17.7	47.3	59.4	59.2	53.0
1982	27.6	17.4	47.1	58.0	54.6	50.6
England and Wales[3]						
1969	6.5	2.1	6.3	11.0	14.4	15.6
1970	9.7	3.1	9.7	16.7	21.7	21.4
1971	12.8	3.8	12.7	20.6	25.4	22.7
1972	15.3	4.7	16.3	25.7	30.4	26.4
1973	16.0	5.3	19.1	29.5	34.8	30.7
1974	16.7	5.5	20.1	30.6	35.3	29.8
1975	17.4	5.5	20.6	31.1	35.8	29.2
1976	17.6	5.7	20.7	31.3	35.7	28.9
1977	17.5	5.7	20.5	30.6	34.5	27.2
1978	17.6	6.1	20.0	29.2	32.9	26.1
1979	18.7	6.3	20.0	28.0	31.2	23.8
Finland						
1963–67	4.2	3.0	8.3	13.2	15.5	14.1
1968	5.8	3.9	12.4	19.7	23.3	21.2
1969	7.1	5.3	17.1	27.6	34.5	30.7
1973	22.7	16.6	46.2	60.6	70.4	56.8
1974	22.8	15.8	43.2	57.6	69.4	46.9
1975	22.1	15.2	38.0	51.6	63.1	38.9
1976	21.7	13.0	37.3	50.8	58.4	33.4
1977	21.2	12.2	33.2	47.9	54.3	32.3
1978	21.3	11.2	31.1	45.5	48.5	25.5
1979	21.2	10.7	28.4	42.2	46.6	20.0
1980	21.0	10.0	27.0	39.7	40.1	17.8
1981	20.5	8.9	23.3	34.7	36.6	13.7
1982	21.1	8.6	20.3	29.7	30.1	10.0
1983	21.3	8.3	19.2	26.9	29.5	9.4
Hungary						
1959–62	24.6	52.8	75.9	72.8		
1963–66	29.7	56.7	81.5	75.3		

Note: For sources, see Table 2.

1. Known pregnancies are defined as legal abortions plus live births six months later.
2. Parity refers to prior live births, prior deliveries or surviving children, depending on the country. See footnotes to Table 8.
3. Residents only.

Table 9 (continued)

Area and year	Parity					
	0	1	2	3	4	5 or more
Hungary (continued)						
1967–70	28.2	53.9	81.9		74.8	
1971	30.5	53.1	82.8	78.3	64.4	
1972	31.1	52.2	81.8	77.8	63.8	
1973	30.3	46.1	77.5	75.9	63.4	
1974	22.1	23.4	61.8	66.6	53.6	
1975	21.9	22.3	63.2	67.7	54.5	
1976	21.2	22.3	64.2	69.5	62.8	48.4
1977	20.7	21.8	64.8	70.6	63.1	48.9
1978	19.7	21.7	65.6	71.1	62.8	49.4
1979	19.4	22.0	66.6	71.7	62.1	48.4
1980	19.6	22.5	67.5	72.2	63.0	50.3
1981	20.1	23.4	67.5	72.2	63.8	50.7
1982	20.4	24.6	69.1	73.2	65.3	53.3
1983	21.2	25.5	70.4	74.3	66.3	53.9
Singapore						
1970	0.1	0.5	1.8	6.3	10.2	14.2
1971	0.1	0.9	3.8	11.7	16.5	22.1
1972	0.1	1.3	6.2	12.7	19.4	21.6
1973	1.3	4.4	13.6	20.8	27.1	29.4
1974	3.3	7.2	20.1	29.4	37.4	43.2
1975	14.5	12.7	30.9	42.5	53.3	59.8
1976	18.4	15.8	35.9	48.1	59.0	64.7
1977	21.3	19.1	40.5	50.4	62.0	67.1
1978	23.3	19.3	40.5	49.7	61.9	68.1
1979	26.0	19.7	43.3	53.3	59.7	60.4
1980	25.1	19.0	43.6	53.8	61.8	
1981	26.9	19.4	45.1	53.9	60.0	
1982	27.0	19.5	45.7	54.9	57.0	
Sweden						
1976	23.5	13.5	38.9	55.2	58.3	50.5
1977	23.8	13.8	38.4	53.1	56.2	45.8
1978	24.9	13.6	36.8	51.0	52.0	44.2
1979	25.3	14.7	38.1	51.5	53.0	45.0
1981	26.3	14.9	36.3	49.4	49.7	41.8
1982	26.7	14.7	35.3	47.9	48.1	39.3
1983	25.1	14.1	34.5	46.3	48.7	34.5
United States[4]						
1973	24.0	10.6	19.1	23.5	23.6	18.4
1974	26.4	13.3	22.5	27.4	27.2	21.4
1975	29.1	16.3	25.7	29.7	29.6	24.9
1976	31.3	17.8	26.7	30.1	29.7	25.7
1977	34.8	19.0	27.4	29.7	29.8	24.6
1978	35.5	19.8	27.8	29.9	30.1	25.2
1979	36.2	20.1	27.8	28.9	28.1	23.2
1980	36.6	20.8	28.4	28.8	27.4	22.4
1981	36.8	20.8	28.4	29.0	27.1	22.0
1982	36.6	21.1	28.4	28.1	26.1	20.9

The gap was lowest in 1973, probably because after the 1973 Supreme Court decisions, it took longer for black women than for whites to gain access to abortion services.

One might expect that some of the racial difference in abortion incidence would be due to differences in socioeconomic status, but there is little evidence that this is the case. A study of New York City in 1970/71 found that the total abortion rate among blacks was much higher than that among whites, even when neighborhoods with similar incomes were compared. Furthermore, lower income levels were associated with lower, rather than higher, abortion rates (Kramer, 1975).

In the Netherlands, about one-fourth of all residents who obtained abortions in 1984 were immigrants from Suriname, Turkey, the Netherlands Antilles and other countries. The abortion rates of

[4] Ratios are based on numbers of abortions reported to the AGI and parity distributions reported to the CDC. Of all women who had had four or more prior births, the proportion who had had five or more was estimated from the known proportion in 1977 (44 percent) and the proportion in the 1981 NCHS data from 12 states (40 percent), to yield 43 percent in 1978, 42 percent in 1979, 41 percent in 1980 and 39 percent in 1982.

Table 10. Percentage distribution of women who obtain legal abortions, by marital status:[1] Selected areas and years

Area and year	Currently married	Previously married	Never married
Canada[2,3]			
1974	32.2	9.6	58.2
1975	32.3	9.3	58.4
1976	31.7	9.9	58.4
1977	30.1	9.7	60.2
1978	28.4	10.2	61.4
1979	26.0	9.9	64.1
1980	25.0	9.8	65.2
1981	24.6	9.6	65.8
1982	25.0	9.7	65.3
1983	24.4	9.4	66.2
1984	23.9	9.5	66.6
Czechoslovakia[3,4]			
1965–69	80.6	5.5	13.9
1970–74	76.6	6.5	16.9
1975	76.3	7.1	16.6
1976	78.1	7.0	14.9
1977	79.5	7.0	13.5
1978	80.2	7.1	12.7
1979	80.1	7.3	12.6
1980	80.6	7.2	12.2
1981	80.0	7.5	12.5
1982	79.9	7.7	12.4
1983	79.2	7.9	12.9
1984	78.4	8.4	13.2
Denmark[4]			
1963	71.2	10.8	18.0
1964	74.3	11.1	14.6
1965	73.9	11.7	14.4
1966	70.0	12.0	18.0
1967	65.3	11.4	23.3
1968	62.6	11.6	25.8
1969	60.5	11.4	28.1
1974	57.9	8.1	34.0
1975	55.1	7.6	37.3
1976	52.5	7.2	40.3
1977	48.5	9.8	41.7
1978	45.4	10.0	44.6
1981	42.3	8.2	49.5
1982[2]	41.0	8.5	50.6
1983	39.5	7.9	52.7
England and Wales[2,5]			
1968	45.3	8.4	46.3
1969	46.2	8.9	44.9
1970	45.2	9.3	45.5
1971	44.0	9.1	46.9
1972	43.2	9.7	47.1
1973	42.4	9.7	47.9
1974	41.3	9.9	48.8
1975	40.6	10.1	49.3
1976	39.7	10.2	50.1
1977	38.8	10.4	50.8
1978	37.9	11.4	50.7
1979	36.2	11.4	52.4
1980	34.7	11.5	53.8
1981	33.5	11.3	55.2
1982	32.0	11.3	56.7
1983	30.6	11.2	58.3
1984	28.8	10.9	60.3
Finland[4]			
1976	39.5	11.0	49.5
1977	38.2	10.9	50.9
1978	35.5	11.5	53.0
1979	36.0	9.4	54.6
1980	35.3	8.5	56.2
Finland[4] **(continued)**			
1981	34.6	9.5	55.9
1982	33.3	8.8	57.9
1983	32.1	8.8	59.1
France[2]			
1979	51.2	7.1	41.7
1980	49.3	7.6	43.1
1981	47.9	8.0	44.1
1982	47.4	8.2	44.4
German Federal Republic[4]			
1977	61.6	8.7	29.7
1978	58.9	7.2	33.9
1979	56.0	6.8	37.2
1980	54.1	6.6	39.3
1981	53.2	6.3	40.5
1982	51.8	6.2	41.9
1983	51.0	6.4	42.6
1984	50.2	6.1	43.7
Hungary[4]			
1957–61	89.7	2.7	7.6
1962–66	86.7	3.0	10.3
1967	84.2	3.7	12.1
1968	84.1	3.7	12.2
1969	82.9	3.9	13.2
1970	82.0	4.0	14.0
1971	80.4	3.6	16.0
1972	79.2	3.6	17.2
1973	78.2	4.0	17.8
1974	70.2	6.8	23.0
1975	69.6	6.7	23.7
1976	69.7	7.0	23.3
1977	69.7	7.5	22.8
1978	70.2	7.7	22.1
1979	70.7	8.1	21.2
1980	71.1	8.5	20.4
1981	70.6	8.9	20.5
1982	70.5	9.3	20.1
1983	70.0	9.6	20.4
Iceland			
1976–78	43.7	11.5	44.8
India[2]			
1972–75	92.8	1.3	5.9
Italy[2]			
1983	70.5	2.9	26.6
Netherlands[4,5,6]			
1977	48.0	6.9	45.1
1978	43.6	7.3	49.2
1979	43.2	8.3	48.6
1980	41.5	7.9	50.6
1981	40.5	7.5	52.0
1982	40.7	7.5	51.7
1983	37.5	7.2	55.3
1984	36.2	7.7	56.2
New Zealand[2]			
1976	30.1	13.2	56.7
1977	27.8	14.0	58.2
1978	34.5	15.9	49.6
1979	31.3	14.9	53.8
1980	25.3	15.2	59.5
1981	25.5	14.5	60.0
1982	24.3	14.0	61.7
1983	26.0	13.6	60.4

Note: For sources, see Table 2.

[1] Women of unknown marital status distributed pro rata.

[2] Separated women are included with previously married.

[3] Women in informal unions are included with currently married.

[4] Separated women are included with currently married.

[5] Residents only.

[6] See footnote 5 to Table 4.

Table 10 (continued)

Area and year	Currently married	Previously married	Never married
Norway[2,3]			
1979	44.6	7.1	48.3
1980	43.4	7.4	49.2
1981	43.8	6.8	49.4
1982	44.0	7.4	48.6
1983	43.5	7.2	49.3
Scotland[2]			
1968	56.8	10.5	32.7
1969	52.7	10.7	36.6
1970	51.5	10.8	37.7
1971	51.8	10.5	37.7
1972	48.7	10.9	40.4
1973	43.9	12.1	44.0
1974	44.6	12.1	43.3
1975	42.1	12.5	45.4
1976	40.0	12.1	47.9
1977	39.5	12.2	48.3
1978	38.7	11.7	49.6
1979	38.1	12.5	49.5
1980	34.9	11.6	53.4
1981	33.4	12.2	54.4
1982	31.1	11.6	57.3
1983	29.4	11.9	58.6
Singapore[2]			
1970	94.3	1.1	4.6
1971	94.8	0.8	4.4
1972	93.5	1.0	5.5
1973	92.7	1.0	6.3
1974	88.4	1.1	10.5
1975	83.6	1.3	15.1
1976	81.2	0.8	18.0
1977	79.8	1.0	19.2
1978	77.4	1.1	21.5
1979	75.7	1.0	23.3
1980	74.1	1.2	24.7
1981	73.3	1.2	25.5
1982	73.5	1.0	25.5
1983	72.8	1.2	26.0
South Africa[4]			
1981–1982	48.3	7.3	44.4
Sweden[2]			
1968	44.1	11.0	44.9
1969	44.0	10.3	45.7
1970	42.2	10.3	47.5
1971	40.9	10.1	49.0
1972	38.4	10.8	50.8
1973	37.0	11.3	51.7
1974[7]	35.8	10.5	53.7
United States			
Reported to the CDC			
1972[8]	29.7	70.3	
1973	27.4	72.6	
1974	29.7	70.3	
1975	27.4	72.6	
1976	24.6	75.4	
1977	24.3	75.7	
1978[9]	26.4	73.6	
1979	24.7	75.3	
1980	23.1	76.9	
1981	22.1	77.9	
1982	22.6	77.4	
Estimated by the AGI[10]			
1973	29.0	71.0	
1974	27.6	72.4	
1975	26.3	73.7	
1976	24.6	75.4	
1977	22.8	77.2	
1978	23.5	76.5	
1979	21.5	78.5	
1980	20.6	79.4	
1981	18.9	81.1	
1982	19.1	80.9	

these women are far higher than that of native Dutch women (Ketting and Leseman, 1986). A number of other countries have immigrant minority groups whose abortion rates may differ from that of the predominant ethnic group.

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7. Reporting by marital status discontinued in 1975.
8. For most states, the 1972–77 data include separated women with not currently married.
9. For most states, the 1978–82 data include separated women with currently married.
10. Adjusted for changes from year to year in the number of states reporting to the CDC. For most states, separated women are included with not currently married.

Table 11. Legal abortion ratios per 100 known pregnancies,[1] by marital status at termination (MS/T) and at conception (MS/C): Selected areas and years

Area, year and classification	Married	Unmarried
Canada (MS/T)		
1977	5.0	50.6
1978	5.0	51.8
1979	4.8	51.9
1980	5.7	48.2
1981	5.6	46.0
1982	5.7	44.6
1983	5.6	41.4
1984	5.5	41.1
Czechoslovakia (MS/T)		
1965–69	26.5	60.3
1970	26.0	63.4
1971	24.2	64.0
1972	21.6	63.4
1976	19.6	58.2
1977	20.9	57.7
1978	22.0	57.1
1979	23.3	57.2
1980	26.4	59.0
1981	27.2	59.5
1982	28.4	59.6
1983	28.8	59.9
Denmark (MS/T)		
1965	4.7	13.6
1966	4.9	16.0
1967	5.6	20.5
1968	5.5	21.7
1969	6.6	26.8
1974	20.1	41.6
1975	22.3	44.2
1976	23.0	44.9
1977	21.5	44.2
1978	20.0	42.1
1981	22.3	40.0
1982	21.8	39.3
(MS/C)		
1965	5.7	5.7
1966	6.1	6.9
1967	7.1	9.1
1968	6.6	10.3
1969	7.7	14.2
1974	22.4	32.1
1975	23.3	35.4
1976	25.8	36.5
1977	24.1	36.5
1978	22.0	36.4
England and Wales[2] (MS/T)		
1969	3.1	29.1
1970	4.5	38.5
1971	5.7	45.6
1972	6.8	50.5
1973	7.2	53.0
1974	7.3	53.7
1975	7.4	53.1
1976	7.2	53.7
1977	7.1	52.3
1978	7.0	51.3
1979	7.1	51.2
1980	7.3	51.6
England & Wales[2] **(continued)**		
1981	7.3	50.1
1982	7.1	50.0
1983	6.9	46.0
(MS/C)		
1969	3.5	16.5
1970	4.9	23.1
1971	6.3	32.5
1972	7.4	34.6
1973	7.9	37.3
1974	7.9	39.0
1975	7.9	39.7
1976	7.7	41.1
1977	7.7	39.6
1978	7.6	39.0
1979	7.6	40.0
1980	8.0	40.1
Finland (MS/T)		
1976	11.7	62.2
1977	10.7	60.3
1978	9.8	59.0
1979	9.1	56.5
1981	8.0	51.3
1982	7.4	50.6
1983	7.0	49.3
Hungary (MS/T)		
1957–61	49.2	65.2
1962–66	54.7	77.2
1967	51.8	79.3
1968	53.7	80.3
1969	53.9	81.2
1970	51.5	80.7
1971	51.1	81.4
1972	49.4	80.2
1973	46.1	79.1
1974	27.7	73.0
1975	27.4	73.4
1976	27.7	72.9
1977	27.7	72.0
1978	27.8	70.2
1979	28.5	69.1
1980	29.7	68.6
1981	30.4	69.1
1982	31.7	69.2
1983	32.8	69.8
Netherlands[2,3] (MS/T)		
1983	4.4	50.4
(MS/C)		
1983	4.6	34.8
New Zealand (MS/T)		
1981	5.8	27.7
1982	5.5	28.0
Norway (MS/T)		
1976	13.1	56.8
1977	13.6	58.5
1978	12.5	56.2
1979	12.2	54.1

Note: For sources, see Table 2.

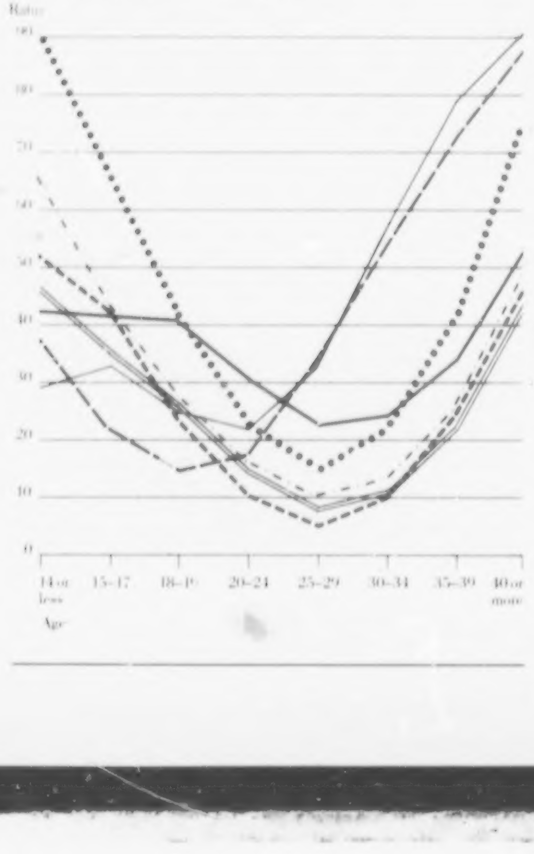
1. Known pregnancies are defined as legal abortions plus live births six months later.
2. Residents only.
3. See footnote 3 to Table 4.

Table 11 (continued)

Area, year and classification	Married	Unmarried
Sweden		
(MS/T)		
1968	4.9	25.6
1969	6.4	29.2
1970	7.0	29.2
1971	8.3	30.1
(MS/C)		
1968	5.7	16.5
1969	7.1	20.9
1970	7.9	21.5
1971	9.4	23.2
United States (MS/T)		
1971	5.1	44.8
1972	5.8	50.4
1973[4]	7.0	57.0

[4] For 1973-80, ratios are based on numbers of abortions reported to the AGI and marital status distribution reported to the CDC.

Figure 6. Legal abortion ratio per 100 known pregnancies,* by age of woman: Selected areas, latest available year

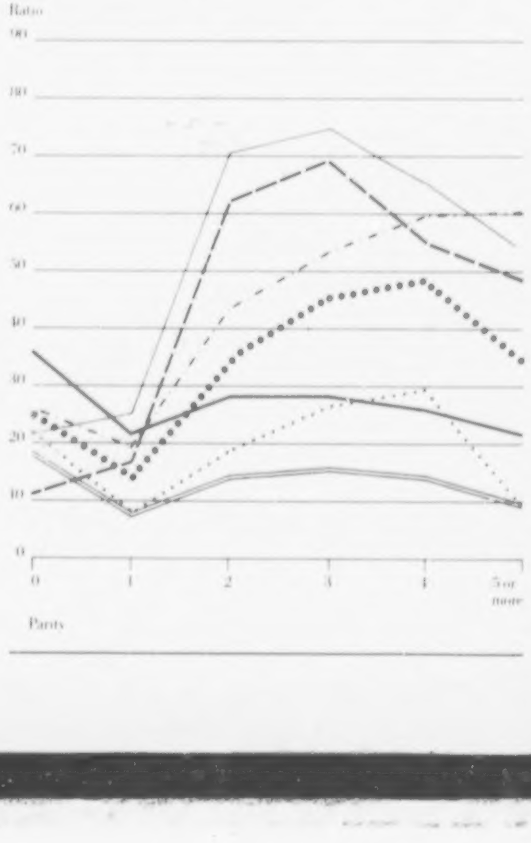


*Legal abortions plus live births six months later.

Figure 6 legend

═══ Canada (1981)
— — — Czechoslovakia (1983)
- · - · England & Wales (1984)
─── Hungary (1983)
- - - - Netherlands (1983)
●●●●● Sweden (1983)
━━━ United States (1982)

Figure 7. Legal abortion ratio per 100 known pregnancies,* by parity: Selected areas, latest available year.



*Legal abortions plus live births six months later.

Figure 7 legend

═══ Canada (1981)
— — — Czechoslovakia (1983)
· · · · · Finland (1983)
─── Hungary (1983)
- · - · Singapore (1979)
●●●●● Sweden (1983)
━━━ United States (1982)

Period of Gestation

5

One of the most important factors in the evaluation of morbidity and mortality associated with abortion is the period of gestation at which the pregnancy is terminated. The traditional division has been between abortions in the first trimester and those in the second trimester, that is, between those performed at 12 or fewer weeks after the onset of the last menstrual period (LMP)[1] and those at 13 weeks or later. However, accumulating experience, primarily in Great Britain and the United States, has made it clear that this dichotomy is an arbitrary one, because morbidity and mortality increase with the progress of gestation even within each trimester.

Unfortunately, period of gestation is not uniformly reported in available statistics. In some countries (e.g., Canada, England and Wales), the form used for the notification of legal abortions includes an entry for the date of onset of the last menstrual period, and gestation is tabulated in terms of completed weeks. In other countries (e.g., Czechoslovakia and Scotland), duration of pregnancy is reported by the physician in terms of weeks, which may signify ordinal week, nearest week or completed week. Thus, 12 weeks may mean 77–83 days, 81–87 days or 84–90 days. Hence, comparisons over time or between groups within countries are more reliable than comparisons among countries. Discrepancies between physicians' estimates of gestation and those based on women's reports of onset of last mentrual period are common. Physicians' estimates, which in the United States are generally lower, are considered more reliable, since they usually are based on observation of fetal size through pelvic examination or sonogram and observation of products of conception, whereas women's reports are subject to inaccuracy due to possible irregular menses and are based on recollection of more or less distant events (Henshaw et al., 1985).

Even when abortions at more than 20 weeks of gestation are not prohibited by law, they are performed infrequently. The proportion of all abortions that are performed at such late gestations ranges from 0.2 percent in Canada and 0.3 percent in Sweden to 0.9 percent in the United States and England and Wales, according to the most recent available reports (1980–84). In Sweden, 87 percent of abortions beyond 20 weeks' gestation are performed at 21–22 weeks; eight percent are performed at 24 weeks or more. Data available for some areas of the United States in 1980 indicate that of all abortions performed after 20 weeks' gestation, 63 percent were done at 21–22 weeks, and 36 percent at 23–24 weeks. An estimated 0.01 percent of all abortions were performed at more than 24 weeks' gestation (Henshaw et al., 1985). A study of all reported abortions in the state of Georgia in 1979 and 1980 that were recorded as having been performed at 25 weeks' gestation or later revealed that most were actually evacuations of fetuses that had spontaneously died or that the gestation was actually earlier, but had been incorrectly recorded. Only three out of 78 had, in fact, been performed at more than 24 weeks' gestation, two because of anencephaly (Spitz et al., 1983).

No information is available on the timing of illegal and self-induced abortions for any country. Survey data are not reliable sources of information, because a long time may elapse between an abortion and a survey interview; nor are hospital records to be depended on for such data, because they overrepresent patients at late gestations, when complications requiring hospitalization are most likely.

Among the areas for which comparable statistics on legal abortions by period of gestation are available for recent years, the proportion of abortions that are performed in the second trimester is 12–18 percent in Canada, England and Wales (residents), India and Scotland (see Table 12). The proportion in India may be relatively high because of a general shortage of medical services there. In England and Canada, delays occur within the health care system. According to a 1978 study in Wessex, England, the average interval between a woman's first contact with a physician and the performance of the operation may be over three weeks (Ashton, 1980). A recent British study found that delays in obtaining abortion services through the National

Continued on page 80

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[1] A distinction must be made between menstrual weeks (from LMP) and gestational weeks (from estimated date of conception, or two weeks fewer than menstrual weeks). In this book, the period of gestation is always stated in menstrual weeks.

Note: For sources not indicated, see Table 2.

1. Women obtaining abortions at unknown gestations distributed pro rata.
2. Completed weeks.
3. Ordinal weeks.
4. Residents only.

Table 12. Percentage distribution of women who obtain abortions, by weeks of gestation:[1] Selected areas, years and characteristics

Area, year and characteristic	8 weeks or less	9–12 weeks	13–16 weeks	17 weeks or more
Canada[2]				
1974	20.8	58.0	14.6	6.6
1975	22.4	58.9	13.3	5.4
1976	24.1	59.0	11.8	5.1
1977	23.8	60.4	11.0	4.8
1978	24.7	59.9	11.1	4.3
1979	24.6	61.3	10.3	3.8
1980	24.6	61.4	10.4	3.6
1981	25.5	61.1	9.9	3.5
1982	25.9	61.0	9.7	3.4
1983	27.7	60.2	8.8	3.3
1984	29.5	58.5	8.6	3.4
Age (years), 1982				
17 or less	16.6	61.9	15.7	5.8
18–19	20.1	62.3	13.1	4.5
20–24	24.8	61.9	9.9	3.4
25–29	29.5	60.9	7.1	2.4
30–34	33.4	59.1	5.9	1.6
35–39	34.9	56.2	6.3	2.6
40 or more	32.6	57.5	6.5	3.4
Czechoslovakia				
1968–72	63.2	36.3	0.4	0.1
1973–77	58.7	40.8	0.4	0.1
1978	56.6	42.9	0.4	0.1
1979	55.7	43.9	0.3	0.1
1980	55.6	43.9	0.4	0.1
1981	55.7	43.8	0.4	0.1
1982	56.8	42.7	0.3	0.1
1983	57.9	41.7	0.2	0.1
1984	61.5	38.0	0.3	0.2
Denmark[3]				
1974	45.8	51.6	2.1	0.5
1975	43.8	53.7	1.9	0.6
1976	43.9	53.7	1.6	0.8
1977	43.1	54.8	1.3	0.8
1978	42.7	55.3	1.3	0.7
1979	38.2	59.5	1.4	0.9
1980	37.7	59.5	1.4	1.4
1981	35.2	62.2	1.4	1.3
1982	34.2	63.3	1.1	1.4
1983	36.8	60.7	1.2	1.3
Age (years), 1983				
17 or less	31.2	63.8	2.7	2.3
18–19	33.2	63.7	1.4	1.6
20–24	33.4	64.5	1.3	0.9
25–29	36.1	61.6	1.2	1.1
30–34	41.0	57.0	0.9	1.1
35–39	42.0	55.8	0.7	1.5
40 or more	42.0	55.1	1.1	1.8
England and Wales[2]				
Residents				
1968	12.7	49.3	27.2	10.8
1969	13.6	52.1	25.8	8.5
1970	13.6	57.7	23.1	5.6
1971	17.1	59.6	19.2	4.1
1972	18.7	60.9	17.2	3.2
1973	22.3	59.6	15.0	3.1
1974	23.7	59.1	14.2	3.0
1975	24.4	58.2	14.1	3.3
1976	25.7	57.8	13.3	3.2
1977	25.5	58.1	13.0	3.4
1978	24.7	58.4	13.1	3.8
1979	24.8	57.7	13.1	4.4
1980	24.7	57.4	13.1	4.8
1981	31.2	53.8	10.7	4.3
England and Wales[2] **(continued)**				
1982	32.5	53.2	9.9	4.4
1983	34.5	51.0	10.1	4.4
1984	35.1	51.0	9.4	4.5
Nonresidents				
1968	15.1	48.6	25.4	10.9
1969	15.9	46.0	26.2	11.9
1970	20.5	52.6	22.5	4.4
1971	26.0	52.3	18.0	3.6
1972	26.9	54.2	16.0	2.9
1973	26.6	50.7	18.4	4.3
1974	26.8	47.6	19.9	5.7
1975	24.9	46.6	20.1	8.4
1976	23.1	44.9	21.3	10.7
1977	22.4	45.6	21.0	11.0
1978	22.9	46.3	19.9	10.9
1979	22.5	47.8	19.3	10.4
1980	20.4	47.4	20.9	11.3
1981	26.4	43.8	17.1	12.7
1982	28.9	40.9	16.4	13.8
1983	28.9	41.3	16.3	13.5
1984	28.7	40.0	16.4	14.8
Age (years), 1983[4]				
15 or less	22.4	52.4	25.2	
16–19	26.8	52.7	20.5	
20–24	34.2	50.7	15.1	
25–29	38.6	50.0	11.4	
30–34	41.0	50.3	8.7	
35–39	40.6	50.8	8.6	
40 or more	38.1	50.2	11.6	
Type of service, 1983[4]				
NHS hospitals	22.7	64.5	12.7	
Non-NHS premises	45.9	37.9	16.1	
Finland				
1974	29.5	59.3	9.9	1.3
1975	29.3	57.5	11.6	1.6
1976	30.2	58.3	10.0	1.5
1977	31.9	57.8	9.3	1.0
1978	33.4	57.1	8.5	1.0
1979	42.0	51.7	4.9	1.4
1980	59.2	36.3	3.1	1.4
1981	58.9	36.7	2.9	1.5
1982	58.1	37.6	2.9	1.4
1983	58.1	37.7	2.5	1.6
Age (years), 1981				
19 or less	31.4	62.1	3.7	2.8
20–24	29.9	64.7	3.2	2.2
25–29	37.7	58.2	2.5	1.6
30–34	41.0	56.0	1.6	1.3
35–39	45.1	52.4	1.4	1.1
40 or more	45.2	49.3	2.0	3.4
France				
1979	56.2	42.2	1.2	0.4
1980	54.9	43.7	1.1	0.3
1981	54.6	43.8	1.0	0.5
1982	54.7	43.9	1.1	0.2
Hungary				
1971	74.7	24.8	0.4	0.1
1972	75.9	23.6	0.4	0.1
1973	75.8	23.7	0.4	0.1
1974	71.4	27.6	0.7	0.3
1975	70.6	28.6	0.6	0.2

Area, year and characteristic	8 weeks or less	9–12 weeks	13–16 weeks	17 weeks or more
Hungary (continued)				
1976	69.7	29.6	0.5	0.2
1977	69.2	30.0	0.5	0.3
1978	68.9	30.2	0.6	0.3
1979	66.6	32.2	0.8	0.4
1980	67.1	31.9	0.6	0.4
1981	67.0	31.8	0.7	0.4
1982	66.1	32.7	0.7	0.5
1983	67.5	31.3	0.7	0.5
Age (years), 1983				
19 or less	55.1	40.0	3.2	1.8
20–24	63.8	35.1	0.5	0.6
25–29	69.3	29.9	0.3	0.5
30–34	70.7	28.7	0.3	0.2
35–39	71.2	28.3	0.3	0.2
40 or more	69.1	29.8	0.5	0.6
Education, 1983				
Elementary	63.7	34.7	0.9	0.7
Secondary	72.3	26.9	0.4	0.4
Higher	75.4	24.0	0.2	0.5
Iceland				
1976–78	53.3	43.8	2.1	0.8
India				
1972–75	76.0		24.0	
1975/76	79.8		20.0	
1976/77	78.2		21.8	
1977/78	82.4		17.6	
1978/79	83.4		16.6	
1979/80	84.8		15.2	
1980/81	86.0		14.0	
1981/82	84.8		15.2	
1982/83	85.0		15.0	
Age (years), 1975/77[5]				
19 or less	60.9		39.1	
20–24	89.4		10.6	
25–29	89.7		10.3	
30–34	84.3		15.7	
35 or more	82.0		18.0	
Marital status, 1975/77[5]				
Single	45.9		54.1	
Married	88.8		11.2	
Education, 1975/77[5]				
Illiterate	73.4		26.6	
Literate	80.2		19.8	
Primary	82.9		17.1	
Secondary	90.8		9.2	
College	95.0		5.0	
Italy				
1983	44.6	54.6	0.9	
Japan[6]				
1951	80.8		19.2	
1952	86.4		13.6	
1953	90.1		9.9	
1954	46.2	45.0	3.2	5.6
1955	47.5	44.3	3.0	5.2
1956–60	50.1	42.5	2.9	4.5
1961–65	53.4	40.6	2.5	3.5
1966–70	55.3	39.7	2.1	2.9
1971–75	58.2	38.3	1.7	1.8
1976	58.9	37.0	1.9	2.2
1977	59.3	36.5	1.9	2.3
Japan[6] **(continued)**				
1978	59.4	36.1	2.3	2.2
1979	50.0	43.8	3.8	2.4
1980	50.9	43.3	3.5	2.3
1981	50.9	43.2	3.5	2.3
1982	51.8	42.4	3.3	2.5
1983	52.2	42.3	3.1	2.4
Age (years), 1982				
19 or less	35.3	46.0	8.1	10.6
20–24	42.7	47.4	5.3	4.6
25–29	48.0	45.8	3.8	2.4
30–34	54.5	41.6	2.5	1.4
35–39	58.1	38.5	2.1	1.3
40 or more	58.8	37.6	2.1	1.5
New York State[7,8]				
Residents				
1971	79.8		9.8	10.4
1972	83.2		8.8	8.0
1973	42.1	41.7	8.7	7.5
1974	44.2	40.9	8.2	6.7
1975	46.5	40.7	7.4	5.4
1976	48.4	39.5	7.0	5.1
1977	49.9	38.7	6.5	4.9
1978	51.3	37.8	6.6	4.3
1979	51.5	37.7	6.7	4.1
1980	51.7	37.4	6.8	4.1
1981	52.2	37.1	6.6	4.1
1982	52.2	37.1	6.7	4.0
1983	51.8	37.3	6.9	4.0
Nonresidents				
1971	81.4		9.9	8.7
1972	81.0		10.7	8.3
1973	32.2	42.6	12.5	12.7
1974	37.7	34.3	12.1	15.9
1975	37.7	34.6	10.5	17.1
1976	42.3	33.8	8.5	15.4
1977	41.3	30.8	10.0	17.9
1978	42.0	30.0	10.4	17.6
1979	38.4	26.9	11.1	23.6
1980	39.3	26.7	9.3	24.7
1981	38.2	27.0	10.0	24.9
1982	39.3	28.0	8.8	23.9
1983	40.7	28.9	8.2	22.2
New Zealand				
1978	37.7	54.4	6.9	1.0
1979	40.4	52.7	6.1	0.8
1980	33.9	58.1	7.4	0.6
1981	38.2	56.0	5.1	0.7
1982	38.8	54.9	5.7	0.6
1983	42.6	52.8	3.5	1.0
Norway				
1979	40.3	56.5	2.6	0.6
1980	38.6	58.3	2.6	0.5
1981	40.4	56.5	2.6	0.5
1982	41.4	55.8	2.2	0.6
1983	39.7	57.4	2.5	0.4
Age (years), 1980				
19 or less	34.8	60.2	4.1	0.9
20–24	35.8	60.7	3.1	0.4
25–29	41.6	56.6	1.5	0.3
30–34	41.8	56.3	1.6	0.3
35–39	42.0	56.5	1.4	0.1
40 or more	43.6	52.9	2.6	0.9

[5] Teaching hospitals (India, 1981).

[6] Until 1978, gestation was reported in lunar months. From 1979 onward, it was reported in weeks: 7 or less, 8–11, 12–15 and 16 or more. The distributions for 1979–82 are, therefore, not comparable with those for earlier years or, strictly speaking, with those for other countries shown in this table.

[7] New York State, 1985.

[8] Abortions at 16 weeks (A_{16}) were estimated by the following formula and transferred from the last to the next-to-last gestation category:
$A_{16} = (A_{13-15} + A_{17+})/2$
$A_{13-16} = A_{13-15} + A_{16}$
$A_{17+} = A_{16+} - A_{16}$

Table 12 (continued)

Area, year and characteristic	8 weeks or less	9–12 weeks	13–16 weeks	17 weeks or more
Scotland				
1969	65.0		35.0	
1970	72.0		28.0	
1971	74.4		25.6	
1972	79.1		20.9	
1973	80.8		19.2	
1974	83.1		16.9	
1975	82.0		18.0	
1976	82.2		17.8	
Singapore				
1980	56.7	36.8	4.9	1.6
1981	60.9	34.0	3.6	1.5
1982	63.1	31.6	3.5	1.8
1983	64.2	31.6	2.5	1.6
Sweden[2]				
1968	3.7	39.2	35.4	21.7
1969	4.5	46.2	31.8	17.5
1970	5.8	53.7	27.9	12.6
1971	6.1	61.3	23.3	9.3
1972	8.9	64.5	19.5	7.1
1973	10.0	70.3	14.9	4.8
1974	18.6	68.1	9.9	3.4
1975	36.2	56.8	5.3	1.7
1976	37.6	56.0	4.8	1.6
1977	40.7	53.3	4.3	1.7
1978	38.7	55.6	4.1	1.6
1979	37.1	57.4	4.0	1.5
1980	38.0	56.9	3.6	1.5
1981	39.5	55.6	3.7	1.3
1982	41.3	54.1	3.4	1.2
1983	45.9	49.9	2.9	1.3
1984	44.2	51.3	3.2	1.3
Age (years), 1984				
19 or less	37.4	56.0	4.9	1.7
20–24	40.7	54.0	4.1	1.3
25–29	44.9	51.5	2.6	1.0
30–34	49.1	47.7	2.2	1.0
35–39	48.1	48.2	2.2	1.5
40 or more	49.2	46.5	2.4	2.0
United States				
Reported to the CDC[9]				
1973	36.1	47.3	6.9	9.7
1974	42.6	44.1	5.5	7.8
1975	44.6	43.3	5.0	7.1
1976	36.1	47.3	6.9	9.7
1977	51.2	40.2	3.4	5.2
1978	52.2	39.2	4.0	4.6
1979	52.1	39.4	4.2	4.3
1980	51.7	38.3	5.2	4.8
1981	51.2	38.9	5.2	4.7
1982	50.6	39.1	5.3	5.0
Estimated by the AGI[8,10]				
1973	38.2	47.3	8.0	6.5
1974	44.4	43.6	6.6	5.4
1975	46.5	42.7	6.0	4.8
1976	47.5	42.8	5.5	4.2
1977	50.0	41.1	5.2	3.7
1978	50.2	40.9	5.8	3.1
1979	50.0	41.1	6.0	2.9
1980	51.5	39.8	6.0	2.7
1981	51.4	39.8	6.1	2.7
1982	51.2	39.7	6.1	3.0
Educational attainment, 1981[8,11]				
11 years or less	42.5	45.1	8.6	3.8
12 years	48.4	41.8	6.5	3.2
13–15 years	54.2	38.8	4.7	2.3
16 years or more	64.9	30.8	2.8	1.5
Age, 1981, reported to the CDC[8]				
14 or less	33.1	44.3	11.8	10.8
15–19	40.8	44.6	9.4	5.2
20–24	49.8	40.6	6.5	3.1
25–29	55.6	36.6	5.4	2.5
30–34	58.4	34.9	4.6	2.1
35–39	59.2	33.7	5.1	2.0
40 or more	57.8	34.4	4.8	3.0

Health Service (NHS) and, by contrast, the speed of referral in non-NHS services are among the reasons that almost half of British women obtaining abortions pay for private abortions rather than obtain free procedures from the NHS (Clarke et al., 1983). In Canada, around 1975, the delay between first physician contact and the abortion was eight weeks (Canada, 1976, p. 146). Delays of several weeks are still common in many hospitals in Canada because of the need for committee approval for abortions (Jones et al., 1986). In a study in which abortion practice in 10 Western countries was compared, the researchers concluded that in countries where the law limits abortion to certain specified grounds and where a second doctor's opinion is required, the proportion of procedures taking place in the second trimester is, on the average, twice as high as in the countries lacking those requirements (Ketting and Van Praag, 1983).

In the United States, nine percent of abortions are second-trimester procedures; the proportion is even lower in Sweden and Japan, where elective abortion is now permitted up to 18 and 24 weeks, respectively. Second-trimester abortions are rare in Czechoslovakia, Hungary and Yugoslavia, where, as elsewhere in Eastern Europe, they are generally authorized only on medical indication.

A shift toward earlier abortion has occurred in almost all countries for which data are available. (Some had low levels of second-trimester proce-

9. Multrimester abortions are reported as 13–15 weeks and 16 weeks or later.

10. Estimates are based on the assumption that one-half of the difference between numbers of abortions reported to the CDC and the AGI were performed in nonhospital facilities. These abortions were distributed by weeks of gestation proportionally to all abortions at 12 weeks or earlier reported to the CDC. Estimates are also adjusted for changes from year to year in the number of states reporting to the CDC.

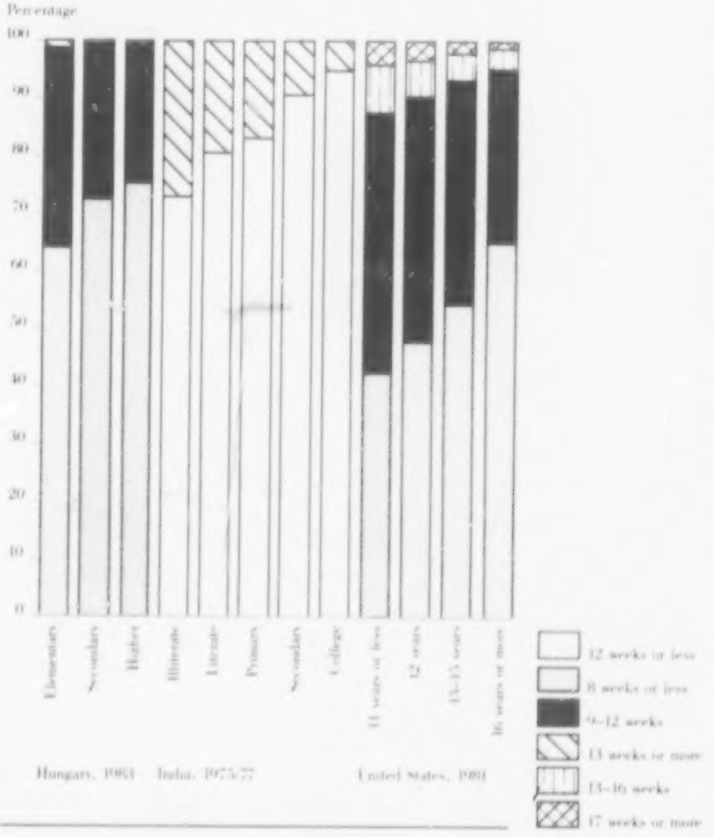
11. Data for 10 states; women aged 18 and over (United States, 1985b).

dures when data were first reported.) The shift was most dramatic in Sweden, where the mean duration of pregnancy among abortion patients dropped from 14.1 weeks in 1968 to 9.9 weeks in 1980 and 9.6 weeks in 1984. This trend probably reflects a simplification of the procedures for obtaining an abortion and growing knowledge among women of where and how to obtain services. In some countries, the increasing availability and accessibility of abortion services has been a factor. Major exceptions are Hungary, where legal restrictions have resulted in some delays, and Denmark, where the criteria for permitting second-trimester abortions were gradually relaxed and where terminations following diagnostic amniocentesis increased from virtually zero in 1974 to almost three percent of all abortions in 1980 (Philip, 1981). Legal restrictions and lack of services cause some countries and areas to have low proportions of abortions accounted for by second-trimester procedures, while causing others to have high proportions, as women migrate to areas where services are available. In England and Wales, 31 percent of abortions obtained by nonresidents in 1984 were performed past 12 weeks. Some of these nonresident women came from countries where abortions past 12 weeks are legally restricted (for example, France[2]). Others came from countries where no legal abortion services are available; these women may have been delayed by the need to travel. Similarly, in New York State in 1983, 30 percent of nonresident abortions were second-trimester procedures, many of which were obtained by women who could not find second-trimester services in their home communities (New York State, 1985).

Late abortions are most frequent among women of low socioeconomic status, as indicated by level of education (Figure 8), and especially among the youngest women (Figure 9). The strong inverse association between period of gestation and woman's age probably reflects the inexperience of the very young in recognizing the symptoms of pregnancy, unwillingness to accept the reality of their situation, ambivalence about the pregnancy, ignorance about where to seek advice and help, and hesitation to confide in adults. Economic considerations and, in many places, regulations prohibiting surgery on minors without parental consent also contribute to delays.

Slight declines in the proportions of abortions performed at eight weeks or earlier, combined with increases in second-trimester procedures, are observed in most countries among older women. These differences reflect primarily the association of high-order pregnancies with economic and cultural deprivation. Other factors may be that abortions on medical grounds are more common among older women, and some women in their 40s may

Figure 8. Percentage distribution of women who obtain legal abortions, by weeks of gestation and woman's education: Selected countries



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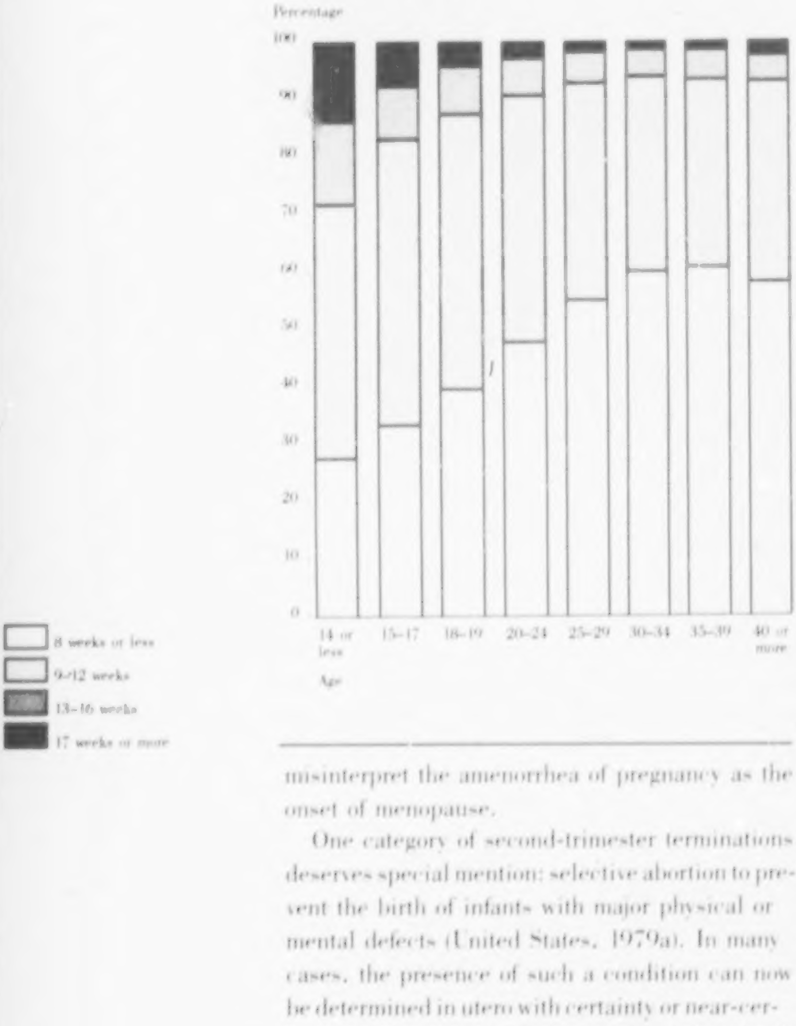
[2] The French law restricts abortions past the 10th week of pregnancy, which is equal to the 12th week after the last menstrual period.

Figure 9. Percentage distribution of women who obtain legal abortions, by weeks of gestation and woman's age: United States, 12-state area, 1981



Source: United States, 1985b.

misinterpret the amenorrhea of pregnancy as the onset of menopause.

One category of second-trimester terminations deserves special mention: selective abortion to prevent the birth of infants with major physical or mental defects (United States, 1979a). In many cases, the presence of such a condition can now be determined in utero with certainty or near-certainty, most often by amniocentesis and cell culture, but also by such other methods as biochemical analysis of the amniotic fluid, ultrasonography, direct visual inspection of the fetus (fetoscopy), fetal blood sampling and chorionic villus biopsy (an experimental technique that, if successful, may substantially replace amniocentesis [AGI, 1983]). Some of the most common conditions that can be detected in utero are Down syndrome, Tay-Sachs disease, sickle-cell anemia and neural tube defects (or NTDs, primarily anencephaly and spina bifida). In addition, since prenatal diagnostic techniques make it possible to identify the sex of the fetus, pregnant women who are carriers of sex-linked disorders such as hemophilia are able, through selective abortion, to avoid the birth of male babies, one-half of whom would be affected by the disorder.

Because all procedures for the prenatal detection of fetal abnormalities require highly trained health personnel and some may result in injury to the pregnant woman or to a normal fetus (Medical Research Council, 1978; NICHD, 1976), they are currently practical only if high-risk pregnancies can be identified. For many rare conditions, the only clues now available are the prior birth of a defective child or such signs as hydramnios (excess of amniotic fluid) that are often associated with fetal malformation. Some conditions, however, such as NTDs and Tay-Sachs disease, can be identified by screening individuals in particular population subgroups known to have a greater frequency of specific abnormalities. Screening for NTDs, which are found in higher frequency among those of British background, can be accomplished by a simple and inexpensive test of maternal blood serum. Tay-Sachs disease occurs most frequently among Jews of Eastern European origin; one person in 30 is heterozygous for the condition and, therefore, a carrier of the disorder. Couples in which both spouses are carriers have been successfully identified by community-sponsored blood tests (Kaback et al., 1977). In the case of sickle-cell anemia, about one-tenth of all black persons in the United States are carriers and readily identifiable as such, and affected fetuses can be identified by amniocentesis. Because the incidence of Down syndrome increases steeply with maternal age, it has been recommended that amniocentesis be offered to all pregnant women over age 35.

Prenatal diagnosis is rarely possible prior to 16 weeks of gestation with the techniques now in general use, and in some cases a definitive determination may not be available before 22–24 weeks of gestation, at the borderline of fetal viability and at a stage when abortion is more dangerous than when performed earlier. (This situation will change, however, if chorionic villus biopsy, which is usually performed before the 12th week of pregnancy, comes into wide use.)

The findings of prenatal diagnostic procedures are negative in more than 95 percent of cases. Although it is never possible to guarantee a perfect baby, the prospective parents can at least be assured that their child will not suffer from the disorder that had been suspected or feared. Prenatal diagnosis backed up by selective abortion thus makes procreation possible for couples who might otherwise avoid childbearing, perhaps by terminating all pregnancies by abortion.

At present, the number of abortions performed on the basis of prenatal diagnosis is quite small, even in developed countries. Because of the complexity and cost of such diagnostic procedures, comparatively few centers exist where they can be carried out. In the United States, about 155 prenatal diagnosis programs were active in 1982 (Kaback, 1982). The number of diagnostic amniocenteses performed in 1982 was on the order of 30,000, whereas more than 200,000 pregnant women were at high risk of having a baby with birth defects. The number of abortions performed in 1982 on the basis of prenatal diagnosis may have been on the order of 1,500, or one-tenth of one percent of all legal abortions in the United States that year. A later estimate places the number of diagnostic amniocenteses in the United States at about 75,000, with 2–5 percent of these women subsequently having abortions. This estimate suggests that 1,500–3,750 abortions each year in the United States are related to a detected fetal defect (Grimes, 1984). However, each of these abortions averts a major catastrophe for a family.

Although damage to the fetus by exposure to rubella during the early weeks of pregnancy cannot be determined by amniocentesis, the risk is great and is a significant ground for abortion, especially in times of epidemic. The number of abortions associated with rubella in the United States in 1964, before immunization against the disease, is thought to have been around 3,500; this number dropped to about 1,000 in 1965 and to about 300 per year between 1966 and 1968, by which time the epidemic had subsided (Tietze, 1970).

Abortion Procedures

6

The methods currently used by physicians for the termination of pregnancy can be conveniently discussed in three categories: instrumental evacuation by the vaginal route, medical induction of labor and uterine surgery (Berger et al., 1981; Hern, 1984; Hodgson, 1981a, pp. 209-377; Stubblefield, 1978; WHO, 1979a; Zatuchni et al., 1979).

Instrumental Evacuation

This is the method of choice for the termination of pregnancy in the first trimester, and it is often used in the second trimester as well. Although the classic method is customarily referred to as dilatation and curettage (D&C), the terms "surgical curettage" and "sharp curettage" are more specific. The procedure usually involves stretching the cervical canal by the insertion of a series of metal dilators, each slightly thicker than the preceding one. When the canal has been sufficiently enlarged to permit the passage of instruments into the uterine cavity, the contents of the uterus are removed with a small ovum forceps, following which all remaining tissue is scraped out with a metal curette. The use of the ovum forceps may not be required in early pregnancy.

In recent years, surgical curettage has been progressively replaced by suction curettage, also known as vacuum aspiration (Van der Vlugt and Piotrow, 1973b; Royco, 1977). This method was pioneered by Simpson, of Edinburgh, who used syringe suction inside the uterine cavity to induce menstruation in 1860. Further work was reported by Bykov in the Soviet Union in 1927, Novak in Baltimore in 1935, Chinese physicians Wu, Wu and Tsai in 1958, and Melks in 1963. The method became popular in the Soviet Union and other countries of Eastern Europe during the early 1960s. It was introduced into the United Kingdom and the United States in July 1977, by Vojta's report of 350 cases in Czechoslovakia and Kerslake's paper suggesting that vacuum aspiration replace dilatation and sharp curettage for first-trimester abortions (David, 1981; Hodgson, 1981b).

After dilatation of the cervix, a metal or plastic cannula, either open-ended or with a lateral opening near its end, is inserted into the uterus to dislodge the products of conception from the uterine wall. A modification of the cannula, developed by Karman (Karman and Potts, 1972), is used primarily during the early part of the first trimester. It is made of flexible rather than rigid plastic, and has two lateral openings on opposite sides; the purpose of this design is to permit the tip of the cannula to bend if it is pushed against the wall of the uterus, thus reducing the risk of perforation. In the United States, the flexible cannula is usually treated as a disposable item and discarded after a single procedure. However, it can be used repeatedly (Fortney and Vengadalam, 1980; Laufe, 1977). Because the plastic does not tolerate excessive heat, it must be sterilized by immersion in a disinfectant solution. Even with proper care, a flexible cannula can be used only 15–20 times. This limitation may create logistic problems in certain developing country settings.

The uterine contents are removed by a pump connected to the cannula by a flexible tube. The pump is usually driven by an electric motor, but hand-operated models are also available (Williford and Wheeler, 1975). During the first few weeks of gestation, the necessary vacuum may be produced manually by means of a 50-ml syringe. Many gynecologists complete the procedure with a metal curette to ensure that no tissue remains; others believe that doing so increases the risk of perforation. Suction has been demonstrated to be simpler, quicker and less traumatic than surgical curettage. The average time required for the procedure is less than five minutes (Andolšek et al., 1976). Both methods of instrumental evacuation are ordinarily performed under local anesthesia by paracervical block or under general anesthesia.

Several methods for dilating the cervix have been developed in attempts to minimize the risk of cervical injury associated with dilatation. Early efforts during the 1960s led to the use of rod-shaped dilators of various sizes and shapes to stretch the cervix mechanically. The use of laminaria rods, or "tents," was reintroduced and has been shown to reduce the risk of upper genital tract injury about one-half. Laminaria are the dried stems of giant seaweed recovered off the Norwegian coast or from the Sea of Japan. These are trimmed into small sticks of varying diameter that expand if they are left in the cervix for a number of hours. Initial problems with laminaria due to sterilization failure were solved by the introduction of gamma-ray or ethylene oxide sterilization. Because laminaria tents must be imported, substitutes made from local raw materials are being studied in India (Sutaria et al., 1980). Furthermore, in efforts to slow down dilatation, efforts have been made to develop other types of hydroscopic dilators. The first of these (known commercially as Lamicel) consists of a piece of plastic foam sponge impregnated with magnesium sulfate. More recently, another plastic dilator (called Dilapan) was introduced in the United States. This dilator acts more rapidly and achieves greater dilatation for its size than any of the other hydroscopic dilators in use. Another experimental approach is the application of prostaglandins intravaginally, in order to soften the cervix prior to beginning dilatation (Royco, 1977; WHO, 1981).

Menstrual regulation (MR)—also known as menstrual extraction, endometrial aspiration and minisuction—is a variant of suction curettage that is limited to the first two weeks after a missed menstrual period (Van der Vlugt and Piotrow, 1973a and 1973b; Watson, 1977). As a rule, neither anesthesia nor dilatation is required. A flexible Karman cannula is used for the removal of the uterine contents. Failure to terminate the pregnancy occurs more frequently with MR than with suction procedures performed later in the first trimester. Moreover, many women who experience a delayed menstrual period are not pregnant (Bongaarts and Tietze, 1977; Fortney et al., 1977). It can be argued that there is no sound medical reason to expose these women to the admittedly small risks associated with MR and that the procedure should be undertaken only after pregnancy has been established, at least in situations where abortion is legal. There may, of course, be valid psychological or social reasons for the procedure in individual cases. In developed countries, the common practice is to offer MR only after a positive pregnancy test is obtained.

In recent years, MR has become very popular in many developing countries, in legal, quasilegal and illegal settings. It has been estimated that at least five million procedures were performed in the developing world between 1974 and 1978 (Laufe, 1979). The legal aspects of MR have not been faced in most countries. A basic difference exists between those jurisdictions where the intent to terminate a pregnancy defines the act of abortion and others where the actual diagnosis of a pregnancy is essential. The situation is unclear not only in countries with restrictive abortion laws but also in some countries where termination of pregnancy is permitted for a broad range of reasons (Paxman and Barberis, 1980). In some countries where all or most abortions are illegal, MR services are available in government or government-supported facilities.

When instrumental evacuation is performed in the second trimester, it typically involves use of a forceps for the destruction and removal of the fetus, of a suction cannula for the aspiration of amniotic fluid and of placental and fetal debris, and of a surgical curette to ensure complete evacuation (Hern, 1981). To minimize the risk of laceration, laminaria tents may be used to dilate the cervix. In the United States, these procedures are usually referred to as dilatation and evacuation or D&E. In recent years, this procedure has become an increasingly acceptable option for abortions at 13–15 weeks, which otherwise would be postponed until 16 weeks, when medical induction can be performed. The dilatation and evacuation procedure requires a high level of skill and care, and many doctors and other operating room personnel find it emotionally very stressful. The psychological advantages to the woman, however, are great, because she does not have to undergo labor (Rooks and Cates, 1977).

Medical Induction

Abortion may also be initiated by the stimulation of uterine contractions, especially during the second trimester of pregnancy. In the United States, the most widely used induction procedure involves the replacement of amniotic fluid by a hypertonic solution of sodium chloride. The amniotic sac is tapped by means of a needle and catheter passed through the abdominal wall and into the uterus, and a quantity of fluid (most often 200 ml) is withdrawn and replaced by an equal or larger amount of saline. The fetal heartbeat usually stops within about one and a half hours. As a rule, labor starts within 24 hours after the instillation, and the expulsion of fetus and placenta is completed a few hours later. The time from instillation to expulsion averages around 36 hours and is rarely more than 72 hours; the process can be accelerated by intravenous administration of oxytocin. In some cases, it is necessary to repeat the instillation procedure, and in a very small percentage of cases, to perform a hysterotomy. In recent years, the use of a solution of urea in lieu of sodium chloride has gained ground.

Uterine contractions can also be produced by the instillation, through an indwelling catheter, of small quantities of saline or of a solution of Rivanol (a yellow dye) between the fetal membranes and the uterine wall. While this route is rarely used in the United States, extra-amniotic saline has long been favored in Scandinavia. Because Rivanol has an antibacterial effect, it is thought to offer protection against pelvic infection. It is widely used in Japan and Cuba. The extra-amniotic route can be used from 13 weeks of gestation onward; intra-amniotic instillation is difficult prior to 16 weeks of gestation.

The most recent addition to the methods available for the stimulation of uterine contractions is prostaglandins (PGs)—compounds found in tissues of many species of animals, including man (Bygdeman and Bergström, 1976; Gail, 1983). Although the first report on the action of PGs in human prodection was published in 1930, they were not used to induce abortion until 40 years later. Originally, two naturally occurring compounds were studied, PGE and $\mathrm{PGF}_{2\,\mathrm{alpha}}$, which are extracted from seminal vesicles of sheep. These compounds have since been synthesized, and chemical analogs have been developed.

Prostaglandins are administered intra-amniotically, intramuscularly, through vaginal suppositories or through extra-amniotic infusion by means of a catheter introduced through the cervix. They are often used in combination with oxytocin, laminaria tents, saline or urea.

Currently under investigation is the administration of PGs as vaginal inserts for use early in the first trimester. In selected cases (women who have had prior pregnancies and have been amenorrheic for fewer than 50 days), these inserts have achieved a level of effectiveness that suggests some promise for their use instead of suction curettage if a dose routine can be developed that reduces the overall time to abortion and the rate of incomplete terminations (Bygdeman et al., 1981).

Work is also under way on development of compounds that would block the effect of progesterone, a hormone that is needed for successful implantation and for maintenance of the embryo. The most notable example is RU 486, which in clinical trials has been administered orally to women up to 10 weeks pregnant, alone and in conjunction with prostaglandin. This kind of drug is not likely to be generally available, however, for some time (Spitz and Bardin, 1985; Atkinson et al., 1986). The development of such a medical, rather than surgical, method of early abortion that is safe and effective for use in nonclinical settings, preferably as a do-it-yourself procedure, remains an important objective.

Advantages of the PGs over saline include a shorter induction-to-abortion time, an absence of significant disturbances of blood clotting and a lack of risk of hypernatremia or myometrial necrosis. The major side effects, resulting from the action of PGs on the musculature of the gastrointestinal tract as well as on the uterus, are vomiting, diarrhea, hyperthermia and retained placenta. Repeat procedures are more frequently required with PGs than with saline.

Still another technique for the stimulation of uterine contractions, which does not strictly fall under the heading of medical induction, is the laminaria-metreurynter combination. Two or three laminaria tents are placed in the cervix for 24 hours, after which a small, empty, tightly folded rubber bag is inserted between the membranes and the wall of the lower uterine segment. The bag is then filled with fluid to prevent its escape from the uterus before the cervix is sufficiently dilated, and a weight is attached to further increase its contraction-producing effect on the uterus. Infection is prevented by liberal use of antibiotics. The method is popular in Japan.

With intra-amniotic instillation of prostaglandins, extra-amniotic methods and the laminaria-metreurynter technique, some fetuses briefly show some sign of life at expulsion. Rates of reported live births with intra-amniotic instillation range from one to 70 per 1,000 procedures, with the highest rate associated with PGF_{2alpha} (Grimes, 1984). Some U.S. practitioners are advocating the intracardial injection of digitalis preparations to produce rapid fetal death before the procedure.

Uterine Surgery

Hysterotomy and hysterectomy are two surgical procedures used for the termination of pregnancy in a small, select proportion of cases. Hysterotomy is, in essence, a cesarean section performed before the fetus is viable. While the uterus is usually approached by laparotomy, the procedure can also be done by the vaginal route early in the second trimester. Because the scar in the uterine wall is thought to weaken the tissue and to cause rupture of the uterus in later deliveries, many physicians believe that subsequent pregnancies carried to term will require cesarean section. Hysterotomy is performed only if the patient's medical condition rules out alternative procedures.

Hysterectomy is a sterilizing procedure involving the removal of the uterus but usually not of the ovaries. It is most often chosen when the objective of the operation is the removal of the uterus because of pathology in addition to the termination of pregnancy. Hysterectomy can be achieved by either the abdominal or the vaginal route. Both hysterotomy and hysterectomy are usually performed under general anesthesia.

Folk or Traditional Methods

Methods used by persons without medical training to induce abortion include spells and incantations; a variety of traditional medications, which tend to be ineffective or toxic; and grossly traumatizing procedures designed to damage or destroy the fetus, leaving its expulsion to natural forces. Some of these methods may have acceptable results; others may have high complication rates, and, indeed, may prove fatal. The most widely used method is probably the insertion of a foreign body into the uterus. Twigs, roots, clothes hangers, rubber tubes and other objects have been employed for this purpose. In Southeast Asia, abdominal massage is practiced by indigenous midwives (Narkavonnakit, 1979; Sambhi, 1977). Elsewhere, injections of soapy water or readily available household disinfectants have been popular. Use of these chemicals can be lethal. In most countries where legal abortion is widely available, such dangerous chemical methods have been almost entirely replaced by medical and surgical methods (Burnhill, 1985).

Statistics on Procedures

Statistics [illegible] abortion procedures, shown in Table 13, reveal both common trends and major differences among countries for which data are available. Some trends, such as the increasing use of instrumental evacuation, reflect the worldwide shift from later to earlier abortion. Others have resulted from greater experience with abortion, which has led to the abandonm[illegible] methods associated with high morbidity and m[illegible]ity (for example, uterine surgery), or refle[illegible]hnological innovation.

The major exampl[illegible] innovation is the progres-

Table 13. Percentage distribution of abortions by type of procedure: Selected areas and years

Area and year	Instrumental evacuation[1]	Uterine surgery[2]	Medical induction[3]	Other
Canada				
1974	86.9	3.4	8.8	0.9
1975	89.2	2.3	7.5	1.0
1976	90.1	1.6	7.7	0.6
1977	91.3	1.1	6.8	0.8
1978	92.3	0.9	6.8	0.0
1979	93.6	0.6	5.8	0.0
1980	94.0	0.4	5.6	0.0
1981	94.3	0.3	5.3	0.1
1982	94.6	0.2	5.1	0.1
1983	95.0	0.2	4.7	0.1
1984	95.1	0.1	4.7	0.1
Denmark				
1974	91.6	1.4[4]	2.1	4.9
1975	92.2	1.2	1.7	4.9
1976	95.2	0.9	1.8	2.1
1977	95.9	0.6	1.6	1.9
1978	96.3	0.5	1.7	1.5
1979	96.5	0.4	2.4	0.7
1980	96.8	0.4	2.4	0.4
1981	97.3	0.3	2.3	0.2
1982	97.4	0.2	2.2	0.2
1983	97.4	0.2	2.2	0.2
England and Wales[5]				
1968	67.6	27.9	4.5	
1969	71.3	23.5	5.2	
1970	79.6	16.4	4.0	
1971	87.3	9.9	2.8	
1972	92.4	5.8	1.4	0.4
1973	92.9	3.7	3.2	0.2
1974	92.2	2.6	4.4	0.8
1975	91.4	1.9	6.6	0.1
1976	91.0	1.5	7.4	0.1
1977	91.3	1.2	7.5	0.0
1978	91.5	0.9	7.6	0.0
1979	91.4	0.8	7.8	0.0
1980	91.9	0.6	7.5	0.0
1981[6]	92.4	0.5	7.1	na
1982	92.6	0.3	7.0	na
1983	92.5	0.3	7.2	na
Residential status, 1983				
Residents	91.6	0.4	8.0	na
Nonresidents	95.7	0.1	4.2	na
Type of service, 1983[7]				
NHS hospitals	89.4	0.7	10.0	na
Non-NHS premises	93.9	0.1	6.0	na
Finland				
1981	90.6	0.0	8.0	1.4
1982	90.5	0.0	8.0	1.5
1983	90.3	0.0	8.8	0.9
France				
1979	99.9		0.1	
1980	99.9		0.1	
1981	99.9		0.1	
1982	99.9		0.1	
German Federal Republic				
1977	92.8	3.3	3.9	na
1978	93.7	1.9	4.4	na
1979	95.2	1.3	3.5	na
1980	96.8	0.8	2.4	na
1981	97.2	0.6	2.1	na
1982	97.4	0.4	2.2	na
1983	96.8	0.3	2.9	na
1984	97.3	0.3	2.4	na
Hungary				
1974	99.5		0.5	
1975	99.5		0.5	
1976	99.6		0.4	
1977	99.5		0.5	
1978	99.1	0.0	0.8	0.1
1979	97.3	0.1	2.3	0.3
1980	98.0	0.2	1.7	0.1
1981	97.6	0.1	2.2	0.1
1982	97.4	0.1	2.5	0.1
1983	95.8	0.0	4.0	0.1
India				
Calcutta[8]				
1972–73	64.7	21.5[9]	13.8[10]	na
State of Karnataka[11]				
1972–74	76.0	10.8[9]	11.6[10]	1.6
New Delhi[12]				
1972–79	71.1	2.9	26.0	0.0
13 Teaching hospitals[13]				
1975–77	82.7	6.1	11.2	0.0
State of West Bengal[14]				
1977–78	63.0	24.6	12.4	
Italy				
1983	99.4	0.0	0.6	0.0
New Zealand				
1978	92.5	1.0	6.5	0.0
1979	95.0	0.5	4.5	0.0
1980	96.9	0.3	2.8	0.0
1981	97.3	0.3	2.4	0.0
1982	97.3	0.2	2.5	0.0
1983	97.7	0.1	2.3	0.0
Norway				
1979	97.7		2.3	
1980	97.6		2.4	
1981	97.9		2.1	
1982	97.9		2.1	
1983	96.7		3.3	
1984	97.7		2.3	
Scotland				
1968	48.5	41.0[9]	10.5	
1969	57.6	30.5	11.9	
1970	65.4	24.7	9.9	
1971	68.3	21.2	10.5	
1972	75.6	14.1	10.3	
1973	78.3	8.6	13.1	
1974	79.0	5.8	15.2	
1975	77.4	3.1	19.5	
1976	80.6	2.9	16.5	
1977	82.1	2.6	15.3	
1978	85.1	1.1	13.8	
1979	82.2	1.6	16.2	
1980	83.7	0.8	15.5	
1981	86.9	0.7	12.4	0.0
1982	87.4	0.6	12.0	0.0
1983	87.4	0.4	12.2	0.0
Singapore				
1980	98.6		1.4	
1981	98.2		1.8	
1982	96.9	0.1	3.0	0.0
1983	96.2	0.1	3.7	0.0
Sweden				
1971	64.1	7.6[15]	28.3[16]	na
1972	72.7	5.0	22.3	na

Notes: For sources not indicated, see Table 2. na = data not available.

[1] Suction and surgical curettage. Includes menstrual regulation and midtrimester dilatation and evacuation.

[2] Hysterotomy and hysterectomy.

[3] Hypertonic saline, urea and prostaglandin.

[4] For all years: abdominal hysterotomy only.

[5] Residents and nonresidents.

[6] In 1981–83, medical induction includes a small number of abortions performed by other methods.

[7] Residents only.

[8] Two large hospitals (Bose and Sethna, 1980).

[9] For all years: hysterotomy only.

[10] For all years: saline only.

[11] Rao and Kochar, 1977.

[12] One teaching hospital (Kona and Hingorani, 1980).

[13] India, 1981.

[14] Datta, 1980.

[15] For all years: "other one-step methods."

[16] For all years: "Two-step methods."

Table 13 (continued)

Area and year	Instrumental evacuation[1]	Uterine surgery[2]	Medical induction[3]	Other
Sweden (continued)				
1973	80.4	3.6	16.0	na
1974	86.3	2.5	11.2	na
1975	91.2	1.7[17]	6.2	na
1976	91.7	1.6	6.7	na
1977	93.0	1.2	5.8	na
1978	93.6	1.2	5.2	na
1979	94.3	1.0	4.7	na
1980	95.1	1.0	3.9	na
1981	95.2	1.1	3.7	0.0
1982	95.2	1.0	3.8	0.0
1983	95.6	0.8	3.5	0.0
1984	95.5	0.7	3.7	0.0
United States				
Reported to the CDC				
1973	88.4	0.7	10.9[18]	na
1974	89.7	0.6	9.7	na
1975	91.0	0.4	8.6	na
1976	92.8	0.2	7.0	na
1977	93.7	0.2	6.1	na
1978	94.6	0.1	5.3	na
1979	95.0	0.1	4.9	na
1980	95.5	0.1	4.4	na
1981	96.1	0.1	3.8	na
1982	96.4	0.0	3.5	na
Estimated by the AGI[19]				
1973	89.7	0.6	9.7[18]	na
1974	90.5	0.6	8.9	na
1975	91.7	0.3	7.0	na
1976	93.4	0.2	6.4	na
1977	93.9	0.2	5.9	na
1978	94.6	0.1	5.3	na
1979	94.9	0.1	5.0	na
1980	95.7	0.1	4.2	na
1981	96.2	0.1	3.7	na
1982	96.5	0.1	3.4	na

sive replacement of surgical curettage by suction curettage. In recent years, the latter method has accounted for more than 99 percent of all vaginal evacuation procedures in Sweden, for 93–96 percent in Canada, Denmark, England and Wales and the United States, and for 81 percent in the German Federal Republic. Surgical curettage predominates in at least some of the Socialist countries of Eastern Europe, such as Hungary and Poland (WHO, 1979b), in India and probably in Japan and Korea. In China, on the other hand, suction curettage is the preferred method (Yan, 1985). Instrumental evacuation now accounts for more than 90 percent of abortion procedures in all countries reporting information except India (63–83 percent) and Scotland (87 percent). The role of evacuation procedures has decreased only in Hungary and Singapore. In Singapore, the change has occurred despite a trend toward abortion at earlier gestations.

The use of uterine surgery as a method of abortion has declined in all countries for which time series are available, especially in the United Kingdom; it appears to be still popular in some Indian institutions. Among all the countries shown in Table 13, uterine surgery accounts for fewer than one percent of procedures everywhere but in India, and for 0.1 percent or fewer of all procedures in Canada, Finland, France, Hungary, Italy, New Zealand, Norway, Singapore and the United States.

The share of medical inductions among all legal abortions has declined in Canada, the German Federal Republic, New Zealand, the United States and, very markedly, in Sweden, reflecting the trend toward earlier terminations. Conversely, it increased until 1978 in England and Wales, replacing uterine surgery, but has been stable since. The ranking of saline, urea and prostaglandin within the category of medical induction is quite different in different settings. Prostaglandin is the clear favorite in England, while hypertonic saline predominates in Canada (48 percent of medical induction procedures, whereas 42 percent use prostaglandin) and in the United States (56 percent).

In Japan, the saline method was used for second-trimester abortions in the early years after World War II, but was abandoned because of a high incidence of complications and mortality, reported as 200 deaths per 100,000 procedures (Wagatsuma, 1965). More recently, according to Japanese authors, about one-half of the relatively few second-trimester abortions have been initiated by the extra-amniotic instillation of Rivanol, and most of the remainder by the laminaria-metreurynter method (Manabe, 1969; Manabe and Nakajiman, 1972).

Table 14 shows the distribution of legal abortions by method used, within period of gestation, in six countries during recent years. A clear pattern emerges, although there are differences across the countries in levels of each type of procedure within gestational stages. Through 12 weeks of gestation, instrumental evacuation (mainly suction curettage) is used for almost all abortions in all six countries.

17. For 1975–80, early first-trimester abortions by intravaginal prostaglandin are excluded. These cases (about 0.9 percent of all abortions in 1975–77 and 0.5 percent in 1978–84) are classified as medical inductions.

18. For all years, data include a small number of abortions performed by other methods.

19. Estimates are based on the assumption that one-half of the difference between numbers of abortions reported to the CDC and the AGI were performed in nonhospital facilities by suction curettage. Estimates are also adjusted for changes from year to year in the number of states reporting to the CDC.

At 13–16 weeks, this method still predominates in four of the countries, and medical induction follows. In Denmark and Sweden, medical induction accounts for the majority of abortions at this stage of pregnancy. In all five countries for which there are data on 17 or more weeks of gestation, medical induction leads. Uterine surgery is used in very few abortions except in Denmark, where it represents six percent of procedures at 13 or more weeks, and in Sweden, where it accounts for five percent of procedures at 13–16 weeks' gestation and for 22 percent of pregnancies terminated after 16 weeks.

Table 14. Percentage distribution of abortions by type of procedure, according to period of gestation: Selected areas and years

Area, year and weeks of gestation	Instrumental evacuation	Uterine surgery	Medical induction	Other
Canada, 1982				
8 or less	99.8	0.1	0.1	0.0
9–12	99.6	0.1	0.2	0.0
13–16	79.0	0.8	19.8	0.4
17 or more	10.0	1.6	88.1	0.2
Denmark, 1983				
8 or less	99.7	0.1[1]	0.0	0.2
9–12	99.8	0.1	0.1	0.0
13–16	7.5	6.0	82.5	4.0
17 or more	3.3	5.5	87.5	3.7
England and Wales, 1983[2]				
8 or less	99.7	0.1	0.2	na
9–12	98.7	0.2	1.1	na
13–19	65.7	1.2	33.1	na
20 or more	37.7	0.9	61.3	na
German Federal Republic, 1984[3]				
7 or less	98.9	0.1	1.0	na
8–12	97.2	0.3	2.5	na
13 or more	56.1	2.7	41.2	na
Sweden, 1984[4]				
8 or less	99.2	0.4	0.4	na
9–12	98.8	0.2	1.0	na
13–16	29.7	5.2	65.1	na
17 or more	4.8	21.7	73.5	na
United States, 1981[5]				
8 or less	99.4	0.1	0.5	na
9–12	99.0	0.0	0.9	na
13–16	82.7	0.1	17.1	na
17 or more	29.6	0.4	70.0	na

Note: na = data not available.

[1] Hysterotomy only.

[2] Residents and nonresidents.

[3] Gestation was unknown for 8.7 percent of all abortions; these cases were excluded from calculations.

[4] All cases reported as "other one-step methods" are classified as uterine surgery; "two-step methods" are classified as medical induction.

[5] Based on reports from 36 states adjusted to marginal totals estimated by the AGI. Medical inductions include a small number of "other procedures." Abortions at 16 weeks (A_{16}) were estimated by the following formula and transferred from the last to the next-to-last gestation category:
$A_{16} = (4A_{13-15} \times 3A_{16+})/12$
$A_{13-16} = A_{13-15} + A_{16}$
$A_{17+} = A_{16+} - A_{16}$

Sterilization

7

When an abortion is performed because the pregnant woman suffers from a permanent physical, mental or genetic impairment, or because she desires no further children, surgical sterilization may be performed concurrently. Sterilization may be accomplished either by hysterectomy or by the cutting, tying, crushing, cauterization, closure by metal or plastic clip or partial resection of the fallopian tubes. The traditional approach to the tubes is by laparotomy—that is, through an incision in the abdominal wall. A variant of this procedure, known as minilaparotomy, requires only a very small incision. A recently developed procedure is laparoscopy, which permits access to the abdominal cavity by means of special instruments through one or two small incisions. Tubal sterilization by the vaginal route can be accomplished either without special instruments, by posterior colpotomy, or through a smaller incision, by culdoscopy.

It is generally believed that the risk of morbidity and mortality associated with sterilization performed at the time of abortion is low, but greater than that associated with either procedure done alone. The difference is believed to be attributable to the increased vascularity and friability of the genital tract tissue during pregnancy. There is no agreement on whether complication rates for abortion and sterilization performed concurrently are greater than the additive risks from two separate procedures (Cheng, 1981; Hern, 1984; Levinson and Peterson, 1985; Ross et al., 1985; Yuzpe and Rioux, 1979).

The risk of failure of tubal sterilization probably varies by the surgical approach, the method of tubal occlusion and the skill of the surgeon. Multinational studies have shown no statistically significant differences in sterilization failure rates among procedures performed postabortion, postpartum or at a time unrelated to pregnancy (Ross et al., 1985).

Among the areas for which statistical information is shown in Table 15, the one in which legal abortion is most frequently combined with sterilizing operations is India (29 percent of abortions). The next-highest proportions of abortions accompanied by sterilization (5–9 percent) are found in Canada, England and Wales, and Denmark. In New Zealand, Singapore, Finland, Sweden and the United States, the proportion is three percent or less.

Estimates for the United States include only tubal sterilizations performed in hospitals. While combined abortion and sterilization procedures were previously restricted to hospitals or hospital-based clinics, the increased popularity of laparoscopy has led to the performance of some combined procedures in nonhospital settings (Hodgson and Ward, 1981). In 1982, 52 percent of nonhospital clinics providing abortion services also offered female sterilization (Henshaw et al., 1984).

Where information is available, the proportion of abortion procedures in which sterilization is also performed is greatest among older, married women with a high number of previous births. The predominance of women with these characteristics among abortion patients in India helps to explain the high prevalence of concurrent sterilization in that country; similarly, the low prevalence of concurrent sterilization in the United States and Sweden is associated with high proportions of abortion patients who are young and of single women pregnant for the first time. Although the distribution by age, marital status and parity of women obtaining abortions in Great Britain and Canada is similar to that in the United States, the prevalence of concurrent sterilization is comparatively high. Legal abortions are rarely combined with sterilization in Eastern Europe, in spite of the high proportions of older, married and parous women among those obtaining abortions.

In recent years, the proportion of legal abortions that are combined with sterilizing procedures has declined in all of the countries included in Table 15. In most countries, the change has been dramatic, with steep drops in the early years after legalization and fairly stable levels in recent years. Because the total numbers of abortions have increased during most of the period for which data on sterilization are available, the downward trend is less

Continued on page 96.

Note: For sources not indicated, see Table 2. Dash denotes data not available or not meaningful.

1. Hysterectomies were 0.1 percent of abortions (1.0 percent of those sterilized) in 1982.
2. Residents only. Hysterectomies were 0.1 percent of abortions in 1983 (2.0 percent of those sterilized).

Table 15. Of women obtaining abortions, percentage obtaining concurrent sterilizations, and rates of concurrent abortion and sterilization per 1,000 women aged 15–44: Selected areas, years and characteristics

Area, year and characteristic	Percentage	Rate
Canada[1]		
1974	12.3	1.2
1975	11.3	1.1
1976	10.2	1.0
1977	9.4	1.0
1978	9.0	1.0
1979	8.0	0.9
1980	7.7	0.9
1981	7.7	0.7
1982	7.6	0.8
1983	7.2	0.7
1984	7.3	0.7
Age, 1982		
19 or less	0.2	0.0
20–24	1.9	0.4
25–29	8.2	1.0
30–34	19.6	1.5
35–39	34.3	1.5
40 or more	43.7	0.8
Marital status, 1982		
Never married	1.4	—
Currently married	22.3	—
Previously married and unknown	13.5	—
Prior births, 1982		
0	1.1	—
1	6.7	—
2	25.3	—
3	34.8	—
4 or more	37.9	—
Weeks of gestation, 1982		
12 weeks or less	8.0	—
13 weeks or more	3.4	—
Procedure, 1982		
Medical induction	0.9	—
Instrumental evacuation	7.8	—
Uterine surgery	72.0	—
Denmark		
1981	6.2	1.3
1982	5.9	1.1
1983	5.4	1.0
Age, 1983		
19 or less	0.2	0.0
20–29	1.7	0.5
30–39	11.9	1.9
40 or more	14.9	1.3
England and Wales[2]		
1968	23.0	0.8
1969	22.3	1.2
1970	18.4	1.5
1971	15.3	1.5
1972	12.4	1.4
1973	10.8	1.3
1974	9.8	1.1
1975	8.6	1.0
1976	8.7	0.9
1977	8.6	1.0
1978	8.2	0.9
1979	7.8	0.9
1980	7.3	0.9
1981	6.7	0.8
England and Wales[2] **(continued)**		
1982	6.3	0.8
1983	5.8	0.7
Age, 1983		
19 or less	0.0	0.0
20–24	1.0	0.2
25–29	5.4	0.7
30–39	15.5	1.3
40 or more	25.4	0.9
Prior births, 1983		
0	0.4	—
1	4.0	—
2	13.7	—
3	20.1	—
4	24.2	—
5 or more	27.9	—
Marital status, 1980		
Never married	0.4	—
Currently married	17.4	—
Previously married	9.0	—
Husbands' occupation (married women only), 1973		
Professional	13.3	—
Intermediate	15.6	—
Skilled	20.1	—
Semiskilled	22.8	—
Unskilled	29.9	—
Weeks of gestation, 1979		
12 or less	8.1	—
13 or more	5.0	—
Procedure, 1980		
Medical induction	2.1	—
Instrumental evacuation	7.2	—
Uterine surgery	74.2	—
Type of service, 1983		
NHS hospitals	9.6	—
Non-NHS premises	2.2	—
Finland		
1965	30.5	1.5
1966	31.4	1.6
1967	32.0	1.7
1968	30.5	1.8
1969	33.2	2.6
1970	20.3	2.8
1971	9.1	1.7
1972	5.7	1.2
1973	4.4	1.0
1974	2.6	0.6
1975	3.0	0.6
1976	2.5	0.5
1977	2.1	0.4
1978	1.9	0.3
1979	1.6	0.2
1980	1.8	0.2
1981	2.1	0.3
1982	2.2	0.3
1983	2.1	0.3
India		
1972/75	49.7	0.2
1975/76	36.8	0.6

Area, year and characteristic	Percentage	Rate
India (continued)		
1976/77	44.4	0.9
1977/78	24.5	0.4
1978/79	19.1	0.4
1979/80	23.6	0.6
1980/81	24.9	0.6
1981/82	26.1	0.8
1982/83	29.0	1.0
Prior births, 1975/77[3]		
0	0.3	—
1	0.9	—
2	13.3	—
3	36.6	—
4	52.1	—
5 or more	61.0	—
New Zealand		
1978	14.2	0.4
1979	7.6	0.4
1980	4.3	0.4
1981	3.6	0.4
1982	3.7	0.4
1983	3.2	0.3
Scotland		
1968	36.8	0.6
1969	31.2	1.1
1970	27.1	1.4
1971	28.3	1.8
1972	23.9	1.8
1973	20.5	1.5
1974	18.8	1.4
1975	14.2	1.0
1976	13.7	0.9
1977	13.7	0.9
1978	13.1	0.9
1979	11.9	0.9
1980	10.6	0.8
1981	10.1	0.8
1982	8.7	0.7
1983	9.1	0.7
Prior births, 1980		
0	0.8	—
1	6.7	—
2	23.7	—
3	29.3	—
4 or more	35.0	—
Singapore		
1973	39.1	4.1
1974	28.1	3.8
1975	15.3	3.6
1976	11.9	3.3
1977	7.7	2.2
1978	5.5	1.6
1979	5.1	1.4
1980	4.1	1.2
1981	3.4	1.0
1982	3.0	0.9
1983	2.5	0.7
Sweden		
1968	9.0	0.6
1969	7.7	0.7
1970	6.9	0.7
1971	5.0	0.6
1972	3.7	0.6
Sweden (continued)		
1973	2.4	0.4
1974	1.6	0.3
1975	—	—
1976	1.0	0.2
1977	1.1	0.2
1978	1.3	0.2
1979	1.4	0.3
1980	1.7	0.3
United States		
1970[4]	4.4	0.2
1971	2.9	0.3
1972	2.7	0.3
1973	2.5	0.4
1974	2.2	0.4
1975	2.4	0.5
1976	1.9	0.5
1977	2.0	0.5
1978	1.5	0.4
1979	1.5	0.4
1980	1.4	0.4
1975/78[5]	1.5	—
Age		
19 or less	0.1	—
20–29	1.1	—
30–39	5.9	—
40 or more	9.3	—
Prior births		
0	0.2	—
1	0.9	—
2	3.8	—
3	6.8	—
4 or more	10.6	—
Marital status		
Never married	0.4	—
Currently married	4.0	—
Previously married	2.7	—
Ethnic group		
White	1.1	—
Black and other[6]	3.2	—
Preexisting medical complications		
With complications	1.8	—
Without complications	1.1	—
Weeks of gestation		
12 or less	1.6	—
13 or more	1.2	—
Procedure		
Medical induction	0.9	—
Instrumental evacuation	1.5	—
Ethnic group and prior births[7]		
White		
0	0.1	—
1 or 2	1.4	—
3 or more	8.4	—
Black and other[6]		
0	0.2	—
1 or 2	2.2	—
3 or more	13.3	—

[3] India, 1981: Teaching hospitals.

[4] 1970–80: Estimates of postabortion tubal sterilizations are based on the National Hospital Discharge Survey. Data exclude tubal sterilizations in armed forces and Public Health Service hospitals and nonhospital surgical clinics and abortions by hysterectomy (estimated as 0.3 percent of all abortions in 1973–74, 0.2 percent in 1975, 0.1 percent in 1976–78 and less than 0.1 percent in 1979–80). United States, 1979a, 1981, 1983.

[5] Special tabulation from the Joint Program for the Study of Abortion, 1975/78. Hysterectomies are excluded.

[6] Including Puerto Ricans.

[7] Women with preexisting complications are excluded.

marked or even absent when the frequency of combined procedures is expressed as a rate per 1,000 women of reproductive age. The decreased incidence of concurrent sterilization reflects, in part, the changing age/parity distribution of women obtaining legal abortions. It also reflects the trend toward earlier abortions performed on an outpatient basis, the increasing preference for interval sterilization by laparoscopy and—in some places—mounting concern about undue pressure on women to accept sterilization as the "price" of abortion.

Complications and Sequelae

8

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Induced abortion, at any period of gestation, exposes a woman to a risk of complications that is always larger than zero but that can vary considerably, depending on the circumstances under which the abortion is performed. The severity of complications also varies widely, from minor complaints to the extremely rare fatal outcome (Castadot, 1986; Hern, 1984). Complications can be divided into two categories—early (that is, within about one month after the abortion) and late (more than one month after the procedure). Early complications may be further subdivided into immediate (defined as those occurring, although not necessarily discovered, during the procedure or within a few hours after its completion) and delayed (those developing later, but still within one month).

Serious early complications are rare when abortions are performed in medical settings. Those that do occur include perforation of the uterus by one of the instruments used for instrumental evacuation, sometimes combined with injury to the intestines or other organs; major hemorrhage; laceration of the cervix; severe disturbances of blood coagulation, usually associated with saline-induced abortions; and untoward effects of general or local anesthesia.

The most frequent delayed complications include postabortion bleeding due to retention of fragments of the placenta; infection, which may range from mild endometritis to more severe forms of pelvic inflammatory disease, to generalized peritonitis and septicemia; venous thrombophlebitis resulting in pulmonary embolism or infarction; and continued pregnancy due to failure of the procedure, to the fact that the pregnancy is ectopic or to multiple gestation.

The risk and severity of abortion complications generally increases with advancing gestation. Cervical injury and uterine perforations are reduced with the use of hydroscopic dilators. Recent development of rapid, ultrasensitive pregnancy tests has enabled providers to be sure that a woman is pregnant prior to performing any evacuation procedure. Another important recent development is the increasingly widespread use of ultrasound to more accurately estimate fetal age before an abortion. Ultrasound information can be used to guide the choice of the most appropriate method of terminating the pregnancy. Ultrasound is also sometimes used to check the completeness of the abortion procedure.

Over the past decade, a number of investigators have addressed the question of possible adverse effects of induced abortions on future fertility or the outcomes of subsequent pregnancies. In some situations, a clear-cut causal relationship exists between the abortion and a woman's subsequent inability to conceive or to produce viable offspring:

- Sterility results if a hysterectomy is performed because of major hemorrhage in the course of an abortion procedure; however, hysterectomy is rarely required in medical settings. In the Joint Program for the Study of Abortion, 57 secondary (unanticipated) hysterectomies were identified among 162,000 legal abortions in 1971/78, yielding a rate of 3.5 per 10,000 procedures (Grimes et al., 1984b). The incidence of these events increased steeply with age, from 0.7 per 10,000 women under 20 to 4.0 per 10,000 aged 20–29 and 8.9 per 10,000 older than 30. Parity had an important effect: rates were 1.0 per 10,000 for nulliparous women and 8.7 per 10,000 for women who had had one or more prior births. The pattern illustrates the efforts made to preserve the reproductive capacity of young and childless women. In Canada, only 28 secondary hysterectomies were reported among 305,000 abortions in 1976–80, or 0.9 per 10,000 cases (Canada, 1984). Although the form used for the collection of abortion statistics specifically asks for subsequent surgical procedures, the possibility of incomplete reporting cannot be excluded.
- Secondary sterility can be the late result of pelvic inflammatory disease (PID), which is a relatively common complication following abortions performed in nonmedical settings. The role of legal abortion in the etiology of secondary sterility due to bilateral tubal occlusion resulting from PID has

been quantified by a series of prospective studies conducted in Lund, Sweden, over the period 1960–79 (Weström, 1980). These studies revealed that 15 percent of women with laparoscopically verified PID at age 15–34 years who were followed for eight years or to first pregnancy within that interval were unable to conceive because of tubal occlusion. During the same period 0.5 percent of women undergoing outpatient first-trimester abortion by suction curettage developed acute PID within three weeks of the procedure, a rate comparable to that observed in the United States. On the basis of these findings, the incidence of secondary sterility in Lund due to tubal occlusion following abortion can be estimated as well below one in 1,000 cases. Incidence in other settings could, of course, be higher or lower, depending on such factors as the prevalence of genital infections in the population, the quality of abortion services and the availability and utilization of treatment facilities if PID develops. The Swedish studies also suggest an increased incidence of ectopic gestation following legal abortion complicated by PID, on the order of 0.3 per 1,000 total abortions, added to an expected frequency of about seven ectopics per 1,000 pregnancies. Having had one ectopic pregnancy reduces a woman's monthly probability of conception by about one-half if the other tube is intact and by even more if both tubes have been damaged.

Ectopic pregnancy following induced abortion (primarily by vacuum aspiration) has recently been studied in the United States in three locations (Chung et al., 1982b; Levin et al., 1982; Daling et al., 1985b). These studies reported relative risks between 1.3 and 1.5, none of which was statistically significant. The only significant association reported was following abortions complicated by infection or retained products of conception (Chung et al., 1982a). This relationship likely pertains to an increased risk of PID. Other higher risk patients include those with culture-positive *Chlamydia trachomatis* (Qvigstad et al., 1983; Heisterberg et al., 1985a). Studies of this factor point to the need to culture for *C. trachomatis* prior to pregnancy termination and the necessity of providing appropriate treatment (Qvigstad et al., 1983).

- A third mechanism by which an abortion can impair a woman's chances of producing viable offspring is immunization of an Rh-negative woman by red blood cells from an Rh-positive fetus that enter her bloodstream at the time of the procedure. Because the amount of fetal blood in early pregnancy is very small, the risk of immunization is quite low if the abortion is performed furing the first few weeks of gestation. The risk increases with the duration of pregnancy, but remains always below the level associated with term delivery. Rh-immunization does not interfere with conception, but may result in severe, often fatal, damage to the newborn. To prevent this complication, Rh-immune globulin should be administered by injection to all Rh-negative women (15 percent in the United States) at the time of the abortion, unless the man involved is known to be Rh-negative also.

In addition to these three clear-cut but fortunately rare situations, investigators have been concerned with the effect, if any, of abortion on future childbearing. In this regard, emphasis has been on the overall frequency of the impairments, rather than on the specific mechanisms mediating them, such as damage to the cervix during dilatation or damage to the uterine wall resulting in intrauterine adhesions (Asherman syndrome). These epidemiologic studies have recently been reviewed by Hogue and associates (1982, 1983). The possible adverse effects studied have included secondary sterility, ectopic pregnancy, spontaneous abortion, premature delivery and low birth weight, as well as a large number of complications of pregnancy, delivery and fetal development.

Major methodologic issues encountered in these studies include the following:

- Many women are reluctant to reveal prior induced abortions, even procedures obtained in legal settings, but it has been demonstrated that they may be more willing to do so if the outcome of a subsequent pregnancy has been unfavorable or such an event is threatened (Hogue, 1975). It is important, therefore, that the prior abortion experience be ascertained before an adverse outcome of a subsequent pregnancy is known or suspected.

- Low birth weight, short gestation, spontaneous abortion and other possible adverse effects are associated with a variety of background factors that may be independently associated with the incidence of induced abortion — including the woman's age, parity, ethnicity, socioeconomic status and smoking habits. Most of the early investigators have taken none of these confounding factors into consideration, while more recent studies have controlled up to five factors.

Because risks to future fertility and to the outcome of subsequent pregnancies are of greatest interest to women who are considering termination of their first pregnancy by induced abortion but who may want children later, it is appropriate to focus on the comparison of women who are pregnant for the second time, after one prior abortion (G2, A1), with women who are pregnant for the first time (G1). It may also be useful to look first at studies in which all or most of the abortions were performed by suction curettage, the procedure now used for the great majority of legal abortions in North America, as well as in Western Europe.

Given these limitations, only 12 major studies have furnished the minimum of data required to evaluate one or more adverse pregnancy outcomes suspected of being causally related to a prior induced abortion (Bracken, 1986a and 1986b; Chung et al., 1983; Daling, 1977; Harlap et al., 1979; Hogue, 1975; Lean et al., 1977; Lerner and Varma, 1981; Logrillo et al., 1980; Meirik and Bergström, 1983; Obel, 1979; Pickering and Forbes, 1985; WHO, 1979b).[1] Of 25 available G2, A1/G1 comparisons, defined in terms of location and outcome, fewer than one-half generated estimates of relative risk (RR) greater than unity, as Figure 10 illustrates. The unweighted mean RR was 1.03, with only minor variations among the major types of adverse outcomes (0.84 for spontaneous midtrimester abortion, 1.07 for premature delivery and 1.11 for low birth weight).

Since the 95-percent confidence range of all but one of the RRs includes or just reaches 1.0, these studies, as a group, suggest that the true value of the RR could be 1.0, or very close to it. While one-half of the comparisons were based on too few cases to offer at least an 80 percent chance of detecting a doubled (2.0) risk of adverse pregnancy outcome following induced abortion, there can be no doubt that any adverse effects of terminating the first pregnancy by suction curettage must be quite small (Hogue et al., 1982, Tables 4–6). The few available evaluations of secondary sterility or reduced ability to conceive lead to the same conclusion (Ibid., Table 2; Cramer et al., 1985; Daling et al., 1985a; Stubblefield et al., 1984; WHO, 1984). This is also true for complications of labor and delivery, including premature rupture of membranes, duration of labor, placenta previa (Grimes, 1984), abruptio placentae, placental insufficiency, retention of tissue and postpartum hemorrhage (Hogue et al., 1982, p. 84; Linn et al., 1983).

The absolute risk attributable to the termination of the first pregnancy by suction curettage abortion, based on the unweighted averages of relative risks and the prevalence of adverse outcome among primigravidae, was negative for subsequent spontaneous midtrimester abortion, virtually zero for premature delivery and less than one per 100 live births for low birth weight.

Compared with suction curettage procedures, surgical curettage abortions of first pregnancies have been reported to involve somewhat higher risks of subsequent adverse pregnancy outcome. This finding has been reported in a number of studies (mostly from Eastern Europe and Japan) entirely or predominantly involving abortions by surgical curettage. It is not clear to what extent these higher risks reflect greater traumatization by the method or the manner in which it was used, inadequate correction for confounding variables or other biological or social factors associated with geography. No consistent pattern was found in the few sites where both methods of abortion were used and studied.

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[1] Preliminary results have also been reported from a large, ongoing, prospective study, but not in a comparable format (Frank et al., 1985).

When women who have had one prior abortion (G2,A1) are compared with women who are pregnant for the second time and have had a live birth (G2,P1), the risks are almost always higher than when they are compared with primigravidae. This finding reflects the well-established fact that the first pregnancy is normally associated with higher risks than the second. It can be argued that the induced abortion does not affect the risks associated with a first birth.

Effects on future fertility or on the outcome of subsequent pregnancies have not been adequately explored in regard to midtrimester abortions by either instrumental evacuation or medical induction (Hogue, 1986). This lack of information reflects, to a large extent, the relatively small number of abortions performed by either of these methods. Nor have any of the epidemiologic studies clarified the role of induced abortion in the causation of first-trimester spontaneous abortions. One reason is that it is often quite difficult to identify these early losses, which may be perceived by the woman as a delayed and heavy menstrual flow, do not come to medical attention (let alone require hospitalization) and are almost never subject to the registration of fetal deaths.

Even more important may be a systematic bias first described by Chung and associates (1982a). This bias occurs because, when the rate of spontaneous abortions per 100 pregnancies is calculated, pregnancies ending in induced abortion are eliminated from the denominator. (This is done because some of these pregnancies might have ended in spontaneous abortion had they not been terminated by induced abortion.) However, the numerator includes pregnancies that would have been terminated by induced abortion but ended in spontaneous abortion. Thus, a group of women with a high rate of induced abortion will appear to have had many early spontaneous abortions in comparison with the number of pregnancies they carry to term. Women who have had an induced abortion are more likely to have another than women who have not had any are likely to have a first abortion; the former group therefore will appear to have an elevated rate of early spontaneous abortions.

On a priori grounds, one would expect that women who have had two or more induced abortions and no other prior pregnancy are subject to higher risks of adverse outcome in the first subsequent pregnancy than those who have had only one abortion. This expectation has been confirmed in some, but not all, studies that adequately controlled for confounding variables (Hogue et al., 1982, Table 7; Linn et al., 1983). In view of the high incidence of repeat abortions among nulliparous women in some countries, this issue should have a high priority for future research.

Potential adverse psychological sequelae of induced abortion have been a matter of concern. A number of authors, including some psychiatrists, have expressed the view that every abortion is a stressful experience involving major risks to mental health. Others have pointed out that most women who undergo abortion continue to lead essentially normal lives and that an adverse psychological reaction to an unwanted birth may be far more common and more serious than any adverse reaction to having an abortion. A WHO Scientific Group on Spontaneous and Induced Abortion concluded in 1969 that "there is no doubt that the termination of pregnancy may precipitate a serious psychoneurotic or even psychotic reaction in a susceptible individual" (WHO, 1970, p. 41), but pointed out that emotional stress experienced by the woman may be more closely associated with such factors as the circumstances under which the abortion was performed (legal or clandestine), the period of gestation, the type of operation and the attitudes of the woman's family and of the professionals and other persons involved in the abortion. This conclusion was reinforced by another scientific group, convened eight years later, which stated that "there is now a substantial body of data, reported from many countries after careful and objective follow-up, suggesting frequent psychological benefit and a low incidence of adverse psychological sequelae" (WHO, 1978, p. 22). Postabortion depression has been reported, but is rare and guilt feelings are usually of short duration (Brewer, 1977; David, 1978). A recent Danish study, based on record linkage, demonstrated an increased rate of admissions to psychiatric hospitals among separated, divorced and widowed women obtaining abortions, but not among single and married women (David et al., 1981). Nevertheless, the psychological reaction most commonly noted is relief.

A quantitative international comparison of morbidity resulting from legal abortion cannot be made at this time. Although the *International Classification of Diseases* adequately identifies many types of complications associated with termination of pregnancy, no standards exist for evaluating and recording the severity of some of these complications. It is, therefore, not surprising that the statistics on the early complications of legal abortions, published by national or state health authorities, are not comparable.

In 1983, complication rates officially reported from six areas ranged from 0.1 percent to 3.8 percent, as shown in the table below.

Area	Percentage
Czechoslovakia	0.1
England and Wales	0.6
1st trimester	0.5
2nd trimester	0.9
New York State	1.0
1st trimester	0.4
2nd trimester	5.6
German Fed. Rep.	2.2
1st trimester	1.7
2nd trimester	6.8
Canada	2.1
1st trimester	0.8
2nd trimester	11.0
Denmark	3.8
1st trimester	3.6
2nd trimester	10.5

All of these countries except Denmark have reported declining complication rates in recent years. The rates for England and Wales and for the German Federal Republic are based on the number of complications; those for the other areas, on the numbers of women with one or more complications.

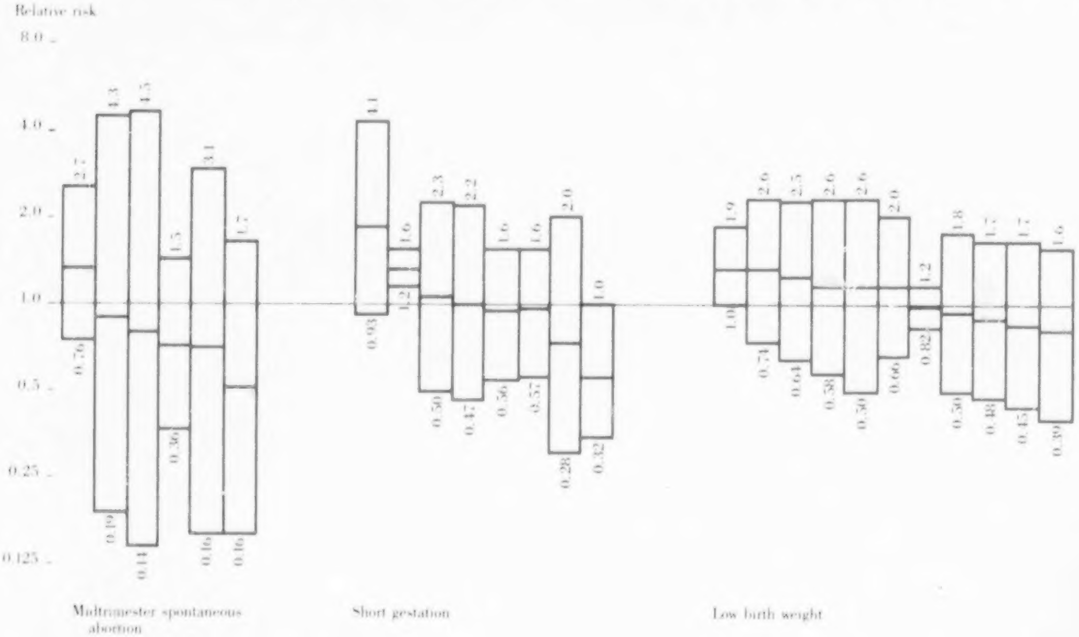
The most comprehensive large-scale investigations of early medical complications of legal abortions were undertaken in the United States by the Joint Program for the Study of Abortion (JPSA), sponsored by The Population Council during 1970/71 (Tietze and Lewit, 1972 and 1973) and by the Centers for Disease Control (CDC) in 1971/75 and again in 1975/78 (Grimes et al., 1977a). These three large-scale studies, based on 73,000, 80,400 and 84,300 abortions, respectively, permit assessment of the interaction of variables that determine levels of morbidity, such as age, parity, socioeconomic and health status, period of gestation, operative procedure and concurrent sterilization.

Numbers of women with one or more major complications per 100 women undergoing abortions in 1970/71, 1971/75 and 1975/78 appear in Table 16 and in Figure 11 (Tietze and Lewit, 1972; United States, 1982). The rates shown are based on only three categories of adverse experiences: pelvic infection with fever of 38°C or more for three or more days, hemorrhage requiring blood transfusion and unintended major surgery (laparotomy, hysterotomy or hysterectomy). These three categories, individually or in combination, comprised 88 percent of all patients classified as having had major complications according to somewhat broader concepts used in 1970/71 and 80 percent in 1971/75. The earlier definitions included pelvic infection with two days of fever and a peak of 40°C or more or hospitalization for 11 days or more; blood loss estimated at 1,000 ml or more, without transfusion; depressive reaction or postabortion psychosis with hospitalization or suicidal attempt; pulmonary embolism or infarction; and several other diagnoses reported in only a few cases each (Tietze and Lewit, 1972). The definition of major complications in Table 16 does not include uterine surgery performed after failure of medical induction rather

*Includes only studies in which all or almost all abortions were performed by suction curettage.

Sources: Bracken, 1986a and 1986b; Hogue, 1982; Pickering, 1985.

Figure 10. Relative risk of adverse pregnancy outcomes (and 95 percent confidence intervals) in studies comparing women who terminated their first pregnancy and tried to carry their second to term with those who sought to deliver their first pregnancy* (Logarithmic scale)



than because of complications. Addition of these cases would raise the 1970/71 rates by 0.34–0.53 per 100 abortions; this information is not available for the two surveys conducted by the CDC.

The three series differ also in other ways. The earliest study collected data from 66 institutions, mainly teaching hospitals, while the two later investigations were based on only 32 and 13 institutions, respectively. Follow-up was defined in 1970/71 as any contact with the patient 10 or more days after the procedure, including mail or telephone contact with her or with the physician to whom she had been referred for aftercare; in 1971/75 and in 1975/78, the minimum interval was 14 days. Comparisons over time should, therefore, be made with some caution, although the overall decline of complication rates, especially from 1970/71 to 1971/75, is almost certainly real and caused by the increasing experience of the medical profession with abortion techniques. Deviations from the overall pattern, such as the low complication rates at 21 weeks and over in 1970/71 and 1975/78 (among patients with follow-up) and at six weeks or less in 1971/75 may reflect changes in institutional coverage or simply random variation.

In analyzing the complications of abortion, a distinction must be made between complications associated with the termination of pregnancy as such and those associated with preexisting pathology or with surgical procedures undertaken for other purposes, such as the achievement of permanent sterility or the removal of the uterus because of fibroid tumors. For this reason, complication rates are shown not only for the aggregate of all patients but also for presumably healthy women subject only to the risks associated with the abortion procedure, that is, excluding all women with reported preexisting complications and those undergoing concurrent sterilizing operations.

Complication rates are also shown for all patients and for those with follow-up. The complication rate for all patients represents a minimum estimate of postabortion complications in the participating institutions. Since patients who experience complications are more likely to return for care than those who do not, the rate for patients with follow-up represents a maximum estimate of the incidence of postabortion complications.

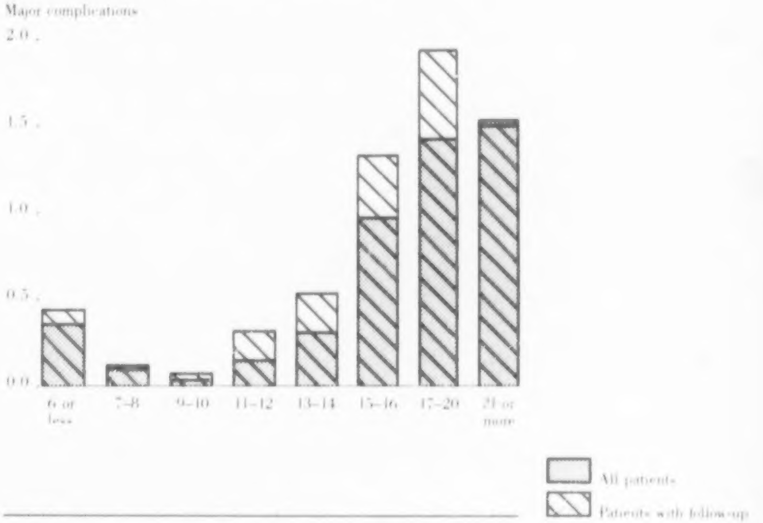
Adjusted for changes in the distribution of abortions by weeks of gestation, as shown in Table 16, the minimum estimate of the rate of major complications among all patients was 0.51 percent for all gestations in 1975/78, compared with 0.70 percent in 1970/71. The maximum estimate was 0.67 per 100 women with follow-up in 1975/78, down from 0.95 in 1970/71. The rates observed in the group of presumably healthy women, exposed to the risk of abortion only, were lower at almost all periods of gestation in all three studies. The incidence of major complications increased, on the average, by about 20 percent with each week of gestation from seven weeks onwards.

Rates of major complications are lowest for abortions by suction curettage at 12 weeks' gestation or earlier and increasingly higher for instrumental evacuation at 13 weeks or later (D&E), medical induction and uterine surgery.

The following additional findings appear to be firmly supported by a number of reports, including several controlled studies with random allocation of patients to different procedures or regimens, and where there is excellent follow-up:

- The incidence of early complications is lower with suction curettage than with surgical curettage (Andolšek, 1974; Hungary, 1978).
- Loss of blood during suction curettage tends to be greater if the procedure is carried out under general anesthesia than if it is performed under local anesthesia (paracervical block). Although this difference was found to be statistically significant in at least one study, it was too small (about 10 ml) to be clinically significant (Andolšek et al., 1977). Perforation of the uterus, cervical injury and hemorrhage were more often associated with general anesthesia; convulsions and postabortion pyrexia, with local anesthesia (Grimes et al., 1979). The risk of death, from anesthesia-related and other causes, was 2–4 times higher with general than with local anesthesia (Peterson et al., 1981).

Figure 11. Number of women with major complications per 100 legal abortions among women who have no preexisting complications or concurrent sterilization, by weeks of gestation: United States, 1975/78



- The overall rate of delayed complications following suction curettage is about the same for women discharged from the outpatient service of a hospital 3–5 hours after the procedure as for women remaining overnight in the hospital (Andolšek et al., 1977).
- The theoretical advantages of flexible over rigid cannulae have not been confirmed by controlled studies. Observed differences in complication rates are small and, more often than not, appear to favor the rigid models. Other characteristics of the cannula, such as number and site of holes, may be as important as flexibility (Andolšek et al., 1976; Antonovski et al., 1975).
- Failure to terminate the pregnancy occurs more

Table 16. Number of women with major complications per 100 abortions, by weeks of gestation and by method of abortion: United States, 1970/71, 1971/75 and 1975/78

Weeks of gestation and method of abortion	All patients 1970/71[1,2]	All patients 1971/75[1]	All patients 1975/78	Patients with follow-up 1970/71[1]	Patients with follow-up 1971/75[1]	Patients with follow-up 1975/78
All patients[3]						
6 or less	0.51	0.21	0.33	0.77	0.31	0.44
7–8	0.27	0.20	0.21	0.34	0.30	0.29
9–10	0.35	0.36	0.21	0.49	0.47	0.34
11–12	0.62	0.45	0.27	0.86	0.60	0.41
13–14	1.22 (1.44)	0.88	0.43	1.47 (1.80)	0.98	0.69
15–16	1.78 (2.25)	1.16	1.05	2.29 (2.91)	1.19	1.44
17–20	1.64 (2.03)	1.42	1.71	2.30 (2.98)	1.56	1.96
21 or more	1.12 (1.81)	1.69	1.77	1.52 (2.76)	2.16	1.71
All gestations[4]	0.70	0.58	0.51	0.95	0.70	0.67
Patients with no preexisting complications or concurrent sterilization[3]						
6 or less	0.45	0.16	0.32	0.65	0.20	0.42
7–8	0.21	0.18	0.15	0.28	0.27	0.16
9–10	0.31	0.29	0.07	0.42	0.40	0.13
11–12	0.48	0.34	0.18	0.66	0.47	0.31
13–14	1.13 (1.27)	0.73	0.30	1.33 (1.53)	0.74	0.55
15–16	1.65 (2.02)	0.99	0.99	2.12 (2.56)	0.85	1.34
17–20	1.53 (1.80)	1.33	1.49	2.10 (2.57)	1.56	1.87
21 or more	1.06 (1.59)	1.39	1.54	1.33 (2.22)	1.89	1.52
All gestations[4]	0.62	0.50	0.40	0.82	0.61	0.53
Method						
Suction curettage[5,6]	0.32	0.23	0.14	0.44	0.33	0.21
D&E[5,7]	0.84	0.45	0.46	0.89	0.52	0.74
Medical induction[5,8]	1.55 (1.89)	1.49	1.56	2.09 (2.62)	1.69	1.86
Uterine surgery[9]	11.05	13.43	na	12.26	12.99	na

Note: na = not available.

Sources: Tietze and Lewit, 1972; United States 1982.

1. Retabulated according to 1975/78 definition of major complications.
2. Percentages in parentheses include abortions by uterine surgery following failure of medical induction. This information is not available for 1971/75 and 1975/78.
3. Excluding abortions by uterine surgery as primary method, which were not tabulated in 1975/78.
4. Adjusted to distribution of all abortions by weeks of gestation in 1970/71.
5. Excluding patients who had preexisting complications or concurrent sterilization.
6. At 12 weeks' gestation or earlier.
7. Suction or surgical curettage at 13 weeks' gestation or later.
8. Hypertonic saline in 1970/71; saline and prostaglandin in 1971/75; saline, prostaglandin and urea in 1975/78.
9. Hysterotomy and hysterectomy.

frequently with evacuation of the uterus during the first two weeks after a missed period, especially during the first week, than with suction curettage later in the first trimester (Van der Vlugt and Piotrow, 1974). Gross examination of the products of conception for the amniotic sac or fetal parts should be performed routinely at the time of the abortion procedure (Fielding, 1984).

- The combination of hyperosmolar urea and low-dose prostaglandin is a safer and more rapid instillation abortifacient than hypertonic saline solution (Binkin et al., 1983).
- Rates of major complications are higher for abortion by saline or urea-prostaglandin instillation than for abortions by instrumental evacuation at 13 weeks or later (Cates et al., 1982b; Grimes et al., 1977b; Kafrissen et al., 1984). The relative position of D&E vis-à-vis medical induction has also been confirmed by national mortality statistics in the United States and Britain (Table 17). These findings have important clinical and public health implications (Cates et al., 1980; Grimes and Cates, 1980).
- The safety of immediate IUD insertion after abortion has been demonstrated by many investigators (Lippes, 1982).
- The incidence of infectious morbidity associated with curettage abortion could potentially be reduced by one-half with the use of prophylactic antibiotics (Grimes et al., 1984c); however, the data are controversial. Neither prophylaxis with lymecycline (Heisterberg et al., 1985a) nor prophylaxis with penicillin/pivampicillin (Heisterberg et al., 1985b) has been found effective in controlled clinical trials.
- The risks of uterine perforation and cervical injury during curettage abortion are reduced by the use of laminaria (Grimes et al., 1984a; Schulz et al., 1983).
- Successful performance of first-trimester abortions by midwives and other paramedical workers has been reported in several countries (Faundes and Luukkainen, 1972; Karman, 1972; Scotti and Karman, 1976). A comparison of 1,285 first-trimester abortions performed by physician assistants and 1,173 by physicians in a clinic in the United States

revealed no difference in complication rates. Information on delayed complications was obtained for 96 percent of the study participants at follow-up or from a telephone call after four weeks (Freedman et al., 1986). Results of a study comparing the frequency of complications associated with abortions performed by paraprofessionals with the frequency following those performed by physicians in Bangladesh suggest that paramedics in Bangladesh may be able to provide menstrual regulation services as safely as physicians can (Akhter, 1986). However, a U.S. study showed that complications from curettage abortions are lower when an attending physician, rather than a resident physician, performs the procedure. (Grimes et al., 1984a; Schulz et al., 1983).

Mortality

9

In evaluating mortality following legal abortion, it is necessary to take into account the sources on which the information is based. In the United Kingdom, the Abortion Act of 1967 requires the reporting to health authorities of all deaths in any way *associated with* the termination of pregnancy, including deaths resulting from preexisting medical complications. This system permits linking each reported death with the period of gestation and with the operative procedure. Although no nationwide reporting system exists in the United States, comparable data have been obtained since 1972 by the Centers for Disease Control (CDC) of the Public Health Service, in cooperation with other national, state and local health authorities. For the years prior to 1972, numbers of deaths associated with legal abortion have been estimated.

In most cases, the statistics on mortality following legal abortion are based on the individual country's general system of vital registration and cover only those deaths that are specifically *attributed to* abortion on death certificates. The categories of attributed and associated deaths overlap to a considerable extent; however, attributed deaths, by definition, exclude deaths assigned to causes other than abortion, and associated deaths may exclude fatal outcomes of delayed complications. Mortality of nonresidents may be underestimated in either case.

The earliest nationwide data on mortality following legal abortion originated in northern Europe, where the first steps toward the liberalization of abortion laws were taken in the 1930s. The longest continuous series of data shown in Table 17, that for Sweden, indicates a dramatic decline in mortality over three decades, from 250 deaths per 100,000 legal abortions in the period 1946–48 to 0.9 per 100,000 in the years 1977–83. A comparable series of statistics for Denmark, extending over a longer period but with three breaks in continuity, also shows a marked decline in mortality, from 195 per 100,000 in the period 1940–50 to 0.0 per 100,000 in the 1976–82 period (95 percent confidence interval: 0.0–2.2).

In Eastern Europe, Czechoslovakia and Hungary provide the most comprehensive national statistics on mortality following legal abortion. Levels of mortality during the late 1950s and early 1960s in these countries were far lower than those reported in northern Europe, and even these low rates have declined further in recent years. They reflect the virtual limitation of legal abortion in Eastern Europe to the first trimester. Although the low mortality rates were initially viewed with disbelief by Western observers, later experience in England and Wales and in the United States suggests that they were accurate.

In the 1968–69 period, following implementation of the Abortion Act, mortality associated with legal abortion in England and Wales was on a level comparable to that achieved in Denmark and Sweden a few years earlier. By the mid-1970s, it had declined substantially.

In the United States, as elsewhere, high levels of mortality from legal abortion prevailed during the period of restrictive legislation, when a significant proportion of women undergoing abortion suffered from preexisting complications that made them poor risks for any type of surgery. By the years 1972–75, with elective abortion more easily available to most women, mortality had declined to about three per 100,000 legal terminations, and the ratio dropped further, averaging under one per 100,000 for the period 1977–81 (Figure 12). At least one-third of deaths from 1972 to 1978 involved women with preexisting major medical complications (LeBolt et al., 1982). The completeness of abortion surveillance by the CDC has been carefully evaluated and is estimated to have reached 94 percent in the period 1972–75 (Cates et al., 1978 and 1982a; Shelton and Schoenbucher, 1978).

In the period 1975–77, mortality associated with legal abortions was still much higher in India than in the more developed countries, according to a study of 17,600 abortions performed in 13 teaching hospitals during a 16-month period (Table 17). The proportions of abortions performed in the second

The figures in text and tables were updated by William M. Sappenfield, Division of Reproductive Health, Center for Health Promotion and Education, Centers for Disease Control, Atlanta, Ga.

Table 17. Number of legal abortions, number of associated or attributed deaths and number of deaths per 100,000 legal abortions: Selected areas, years and characteristics

Area, year and characteristic	Number of abortions[1]	Number of deaths	Deaths per 100,000 abortions	95 percent confidence interval
Canada[2]				
1970–75	221,600	8[3]	3.6	1.6–7.1
1976–83	502,900	1	0.2	0.0–1.1
Czechoslovakia				
1957–66[4]	731,300	28	3.8	2.4–5.2
1967–75[5]	833,500	15[3]	1.8	1.0–3.0
1976–83	780,400	3[3]	0.4	0.1–1.1
Denmark				
1940–50[6]	19,500	38[7]	195	130–260
1953–57[8]	23,700	16	68	34–101
1961–66[9]	27,400	9	33	15–62
1967–75	122,500	4[3]	3.3	0.9–8.4
1976–82	167,000	0[3]	0.0	0.0–2.2
England and Wales[10]				
Deaths reported on form for notification of abortion				
1968	23,600	3	26	14–37
1969	54,800	17		
1970	86,600	14	7.0	5.5–9.0
1971	126,800	14		
1972	159,900	15		
1973	167,100	6		
1974	162,900	7		
1975	139,700	3		
1976	129,700	1	2.1	1.3–3.1
1977	133,000	8		
1978	141,600	6		
1979	149,700	2		
1980	160,900	3		
1981	162,500	1		
1982	163,000	3		
1983	162,200	1		
Attributed to legal abortion on death certificate[11]				
1968	32,600[12]	5	17	8.5–26
1969	54,800	10		
1970	86,600	10	5.7	4.7–7.5
1971	126,800	12		
1972	159,900	10		
1973	167,100	4		
1974	162,900	6		
1975	139,700	6		
1976	129,700	1	2.2	1.1–3.8
1977	133,000	4		
1978	141,600	5		
1979	149,700	2		
Identified by Confidential Enquiries[13]				
1968	32,600[12]	5	17	8.5–26
1969	54,800	10		
1970	86,600	11	6.0	4.6–7.9
1971	126,800	13		
1972	159,900	13		
1973	167,100	5		
1974	162,900	6		
1975	139,700	3		
1976	129,700	0	2.0	0.9–3.9
1977	133,000	4		
1978	141,600	4		
England and Wales[10] **(continued)**				
Type of service[11]				
NHS hospitals				
1968–73	262,400	59	22	17–29
1974–78	266,200	22	8.3	5.2–13
1979–82	240,400	7	2.9	1.2–6.0
Non-NHS hospitals				
1968–73	356,400	10	2.8	1.3–5.2
1974–78	440,700	3	0.7	0.1–2.0
1979–82	395,800	2	0.5	0.1–1.8
Concurrent procedure[14]				
None				
1968–73	547,500	38	6.9	4.9–10
1974–78	658,900	18	2.7	1.6–4.3
Sterilization				
1968–73	71,400	37	52	36–71
1974–78	47,900	8	17	72–33
Gestation (1968–78)[14]				
Without sterilization				
12 weeks or less	930,400	20	2.1	1.3–3.3
13 weeks or more	243,800	33	14	9.3–19
With sterilization				
12 weeks or less	79,100	25	32	20–47
13 weeks or more	35,700	19	53	32–83
Without sterilization (1968–79)				
8 weeks or less	149,700	4	2.7	0.7–6.8
9–12 weeks	389,300	14	3.6	2.0–6.(
13–16 weeks	117,700	12	10	5.3–18
17 weeks or more	27,300	12	44	23–77
Type of procedure (1968–78)[14]				
Instrumental evacuation				
12 weeks or less	967,100	24	2.5	1.6–3.7
13 weeks or more	185,100	13	7.0	3.7–12
Hysterectomy and hysterotomy				
12 weeks or less	28,100	15	53	30–88
13 weeks or more	42,100	20	48	29–73
Prostaglandins				
12 weeks or less	7,100	3	42	8.7–124
13 weeks or more	22,100	5	23	7.3–53
Saline	12,500	5	40	13–93
Utus paste	6,900	11	159	80–285
Finland				
1969–75	133,400	3[3]	2.2	0.5–6.6
1976–81	99,400	0[3]	0.0	0.0–3.7
German Democratic Republic				
1973–76	380,200	5[3]	1.3	0.4–3.1

Note: For sources not indicated, see Table 2.

1. All numbers of abortions are rounded. Because of rounding, components may not add to totals.
2. Canada, 1984, 1986a and 1986b.
3. Attributed to legal abortion on death certificate.
4. Černoch, 1964; and Cernoch and Teser, 1968.
5. 1967–78: Černoch, 1980.
6. Oram, 1952.
7. Twenty-five of the deaths were attributed to the procedure, yielding a rate of 130 per 100,000.
8. Berthelsen and Ostegaard, 1958.
9. Olsen et al., 1970.
10. Residents and nonresidents.
11. United Kingdom, 1982b.
12. Includes 23,600 abortions reported under the 1967 Abortion Act plus estimate of 9,000 for January–April.
13. United Kingdom, 1982d.
14. Includes deaths notified with abortion and unnotified deaths attributed to legal abortion by Confidential Enquiries. (Kestelman, 1984, supplemented by unpublished data.)

Area, year and characteristic	Number of abortions[1]	Number of deaths	Deaths per 100,000 abortions	95 percent confidence interval
Hungary				
Deaths notified by hospitals reporting abortions[15]				
1957–62	917,300	38	4.1	2.8–5.5
1963–67	912,800	13	1.4	0.6–2.2
1968–78[16]	1,601,700	12	0.7	0.3–1.2
Attributed to legal abortion on death certificate[17]				
1968–75	1,334,400	20	1.5	0.9–23
1976–83	664,700	6	0.9	0.3–2.0
India				
1972–78[18]	(7,800)	7	90	36–180
1975–77[19]	(17,600)	12	68	30–110
Gestation				
12 weeks or less	(15,000)	4	26	7.2–68
13 weeks or more	(2,500)	8	321	140–630
1976/77–1978/79[20]	843,600	96	11.4	9.1–14
1979/80–1980/81	749,200	49	6.5	4.8–8.6
1981/82–1982/83	949,700	51	5.4	3.9–6.8
Netherlands				
1976–1983	500,000	1[3]	0.2	0.0–1.1
New York City				
1943–47[21]	3,050	12	390	170–620
New York State[10,22]				
1970/72[23]	434,000	29	6.7	4.2–9.1
Gestation				
12 weeks or less	344,000	10[24]	2.9	1.4–5.3
13 weeks or more	90,000	19	21	12–31
New Zealand				
1976–1983	42,700	0[3]	0	0.0–8.6
Norway				
1978–1982	70,100	0[3]	0	0.0–5.3
Scotland				
1969–75	45,200	10[25]	22	11–40
1976–83	63,500	2[3]	3.1	0.4–11
Sweden				
1946–48[26]	10,700	27[27]	250	160–350
1949–53[26,28]	28,000	27[27]	96	60–130
1954–63[29]	35,200	21	60	34–85
1964–76	202,600	7[3]	3.5	1.4–7.1
1977–83	229,700	2[3]	0.9	0.1–3.1
United States				
1963–68[30]	(9,700)	7	72	29–150
United States (continued)				
1970	193,500	36[31]	19	13–25
1971	485,800	54	11	8.2–14
1972	586,800	24[32]	4.1	2.5–5.7
1973	744,600	25	3.4	2.0–4.7
1974	898,600	26	2.9	1.9–4.2
1975	1,034,200	29	2.8	1.8–3.8
1976	1,179,300	11	0.9	0.4–1.5
1977	1,316,700	17	1.3	0.7–1.9
1978	1,409,600	9	0.6	0.3–1.2
1979	1,497,700	18	1.2	0.6–1.8
1980	1,553,900	9	0.6	0.3–1.1
1981	1,577,300	7	0.4	0.2–0.9
Gestation, 1972–76				
8 weeks or less	1,938,900	10	0.5	0.2–0.9
9–10 weeks	1,285,000	19	1.5	0.9–2.3
11–12 weeks	685,400	18	2.6	1.6–4.2
13–15 weeks	222,200	17	7.7	4.5–12
16–20 weeks	262,100	39	15	11–20
21 weeks or more	49,500	12	24	13–42
Total	4,443,500	115	2.6	2.1–3.1
Gestation, 1977–81				
8 weeks or less	3,724,400	15	0.4	0.2–0.7
9–10 weeks	2,002,900	13	0.6	0.3–1.1
11–12 weeks	976,500	8	0.8	0.4–1.6
13–15 weeks	334,600	4	1.2	0.3–3.1
16–20 weeks	253,500	18	7.1	4.2–11
21 weeks or more	63,300	2	3.2	0.4–11
Total	7,355,200	60	0.8	0.6–1.0
Procedure, 1972–76				
Instrumental evacuation	4,053,500	56	1.4	1.0–1.7
Medical induction	370,800	51	14	10–18
Uterine surgery	18,800	8	43	18–84
Procedure, 1977–81				
Instrumental evacuation	6,996,500	46	0.7	0.5–0.9
Medical induction	351,400	11	3.1	1.6–5.6
Uterine surgery	7,300	3	41	8.5–120
Type of facility, 1974–77[33]				
All cases[34]				
Hospital	1,229,000	19	1.5	0.9–2.2
Other[35]	2,730,000	17	0.6	0.3–0.9
Excluding women with preexisting complications or concurrent sterilization[34]				
Hospital	1,007,000	7	0.7	0.3–1.4
Other[35]	2,296,000	15	0.7	0.3–1.0

trimester (14 percent) and performed concurrently with sterilization procedures (27 percent) were both *lower* in the teaching hospitals than in the country as a whole at the same time.

One of the main factors responsible for the differences among countries in mortality following legal abortion is the gestation at which pregnancies are terminated. In the United States during the 1977–81 period, mortality ranged from 0.4 per 100,000 legal abortions at gestations of eight weeks or less to 7.1 per 100,000 for abortions performed at 16–20 weeks (Table 17 and Figure 13). On the

[15] Mikolas, 1980.

[16] Hungary, 1982.

[17] Hungary, 1984.

[18] K.E.M. Hospital, Bombay (Deshmukh et al., 1980).

[19] Teaching hospitals (India, 1981).

[20] 1976–1983: National reporting system. Reporting incomplete. India, 1984.

[21] Residents only; includes seven deaths attributed to the procedure, yielding a rate of 230 per 100,000 (Tietze, 1950.)

[22] Includes deaths of nonresidents occurring outside of New York State (Berger et al., 1974).

[23] Fiscal year ending June 30.

[24] Includes one woman estimated to be eight weeks pregnant at the time of procedure who was not pregnant.

[25] Identified by Confidential Enquiries into maternal deaths (United Kingdom, 1978a).

[26] 1946–51: Klintskog, 1952.

[27] Of 46 deaths during 1946–51, 39 were attributed to the procedure, yielding a rate of 140 per 100,000.

[28] 1952–58: Sweden, 1973.

[29] 1959–68: Sweden, 1971, p. 49.

[30] Survey of hospitals (Tietze, 1970).

[31] 1970–71: Estimated on basis of deaths attributed to legal abortion on death certificate.

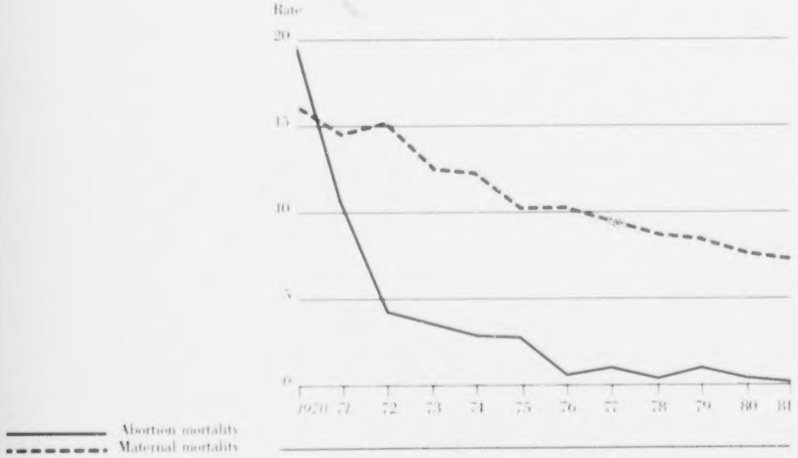
[32] 1972–81: United States, 1985a.

[33] Grimes et al., 1981.

[34] At or before 12 weeks of gestation.

[35] Includes nonhospital clinics (95 percent) and doctors' offices (five percent).

Figure 12. **Number of deaths per 100,000 legal abortions and number of maternal deaths* per 100,000 live births: United States, 1970–81**



*Excluding deaths following abortion and ectopic pregnancy.

Note: Italics indicate that data represent estimates.

average, mortality increased by about 20 percent with *each week* of gestation from eight weeks to 15 weeks and more rapidly between 15 and 20 weeks. The pattern of mortality associated with each procedure corresponded closely to the pattern of complications discussed in Chapter 8.

Over time, the decline in mortality in the United States has varied by week of gestation. Comparison of the periods 1977–81 and 1972–76 shows that mortality at gestations of eight weeks or less improved minimally, while at 13–15 weeks, it dropped by about 85 percent, probably in part as a result of expanded use of instrumental evacuation as the predominant procedure in the later time period (Figure 13).

In England and Wales between 1968 and 1978, the pattern of mortality in relation to gestation and procedure was similar to that in the United States. However, mortality in England and Wales was higher at each gestation, even among cases without concurrent sterilization. Greater use of uterine surgery, which is associated with higher mortality risk, and unexplained high mortality from saline abortions contributed to the difference between England and Wales and the United States.

The finding that mortality levels are higher in National Health Service (NHS) hospitals than in other institutions in England and Wales doubtless reflects, at least in part, the more frequent choice of uterine surgery as the method of abortion and the more frequent concurrent performance of sterilization in NHS hospitals, especially in the early years. Women obtaining abortions in NHS hospitals also are more likely to be 30 years of age or older than are women who obtain abortions elsewhere (Table 4).

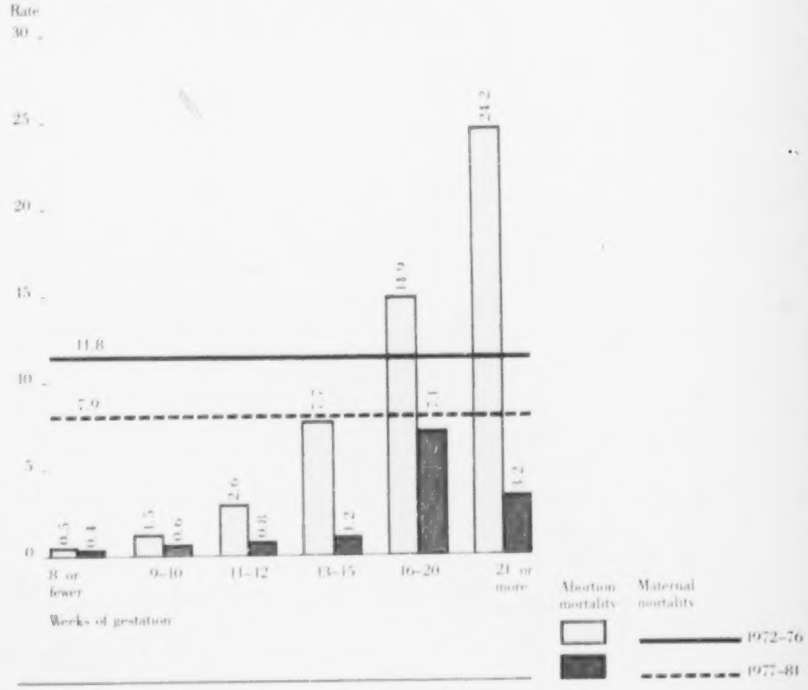
Abortion-related mortality may be compared appropriately with the risk to life associated with carrying a pregnancy to term. In the United States, according to national vital statistics data, maternal mortality attributed to complications of pregnancy and childbirth, *excluding* deaths related to spontaneous and induced abortion and ectopic gestation, declined from 15.2 deaths per 100,000 live births in 1972 to 7.2 per 100,000 in 1981. The average was 11.8 per 100,000 live births for the period 1972–76 and 7.9 for the period 1977–81, as shown in Figure 13. (The averages were weighted by the numbers of abortions performed in each year.) The rates for England and Wales were 13.1 in 1968–72 and 10.2 in 1973–78. These rates do not include deaths occuring during labor or shortly after delivery attributable to other causes, such as diseases of the circulatory system, that, presumably, are aggravated by the stresses of pregnancy or childbirth. Inclusion of these deaths would increase the maternal mortality rate by approximately one-third (Cates et al., 1982a; United Kingdom, 1978b, p. 156). It would appear that in the United States, mortality for women having abortions is now significantly lower at gestations of up to 15 weeks than is mortality attributed to childbirth. Moreover, the risk of death from legal induced abortion is no higher at any point in gestation than is the risk of death from childbearing (Figure 13). (Abortion mortality rates based on CDC abortion counts, which are known to be incomplete, are slightly higher than those shown in Figure 13; but, except at 16–20 weeks, they are still lower than mortality attributed to childbirth.) During the 1972–78 period, mortality associated with childbirth, standardized for age and race, was at least seven times higher than overall levels of mortality due to legal abortion (LeBolt et al., 1982). Recently, it has been argued that compared with legal abortion, "natural pregnancy was found to be safer in both the first and second 20 weeks of pregnancy" (Hilgers and O'Hare, 1981). This may be true, but it is irrelevant, since a "natural pregnancy" entails a risk to the women until delivery, while a pregnancy aborted before 20 weeks no longer presents a risk after that time (Cates, 1982).

The major causes of death following legal abortion in the United States during the period 1972–77 (Cates and Grimes, 1981a) were infection (25 percent), documented or suspected embolism (24 percent), complications of general or local anesthesia (16 percent), and hemorrhage (15 percent).

It is generally recognized that mortality is much higher following abortions that are self-induced or induced by untrained persons than after those performed legally in hospitals and clinics. However, these higher risks are difficult to quantify, since data on neither the number of clandestine abortions nor the associated deaths are readily available. In any event, mortality reflects not only the skill of the persons performing or initiating the illegal abortion but also the availability, utilization and quality of subsequent medical and hospital services if life-threatening complications develop.

In some communities where illegal abortions are performed by untrained persons under unsanitary conditions and where medical facilities are inadequate or shunned because women are afraid of being denounced to law enforcement agencies, mortality ratios may reach or exceed 1,000 per 100,000 illegal abortions. In the literature examined for this report, the highest ratio found was 2,400 per 100,000, reported for a rural area of Bangladesh (Kahn et al., 1986). For most countries, the nationwide risk is certainly much lower, especially if many of the illegal abortions are performed early in pregnancy by qualified medical practitioners or if hospital care is readily available.

Figure 13. Number of deaths per 100,000 legal abortions, by weeks of gestation, and maternal mortality* per 100,000 live births: United States, 1972–76 and 1977–81



* Excluding deaths due to ectopic pregnancy or abortion.

Hospital statistics, however, cannot be used to estimate the overall risk to life associated with illegal abortion, since women with postabortal complications are more likely to be hospitalized than those without complications (Liskin, 1980).

Abortion and Contraception

10

Contraceptives can be used by sexually active women and their partners to prevent pregnancy. If an unintended pregnancy does occur, whether as a result of contraceptive failure or when contraceptives are not used, abortion can be used to prevent a birth. Because induced abortion and contraception share the ultimate goal of preventing unwanted or mistimed births, a high correlation exists between abortion experience and contraceptive experience in populations where both contraceptives and abortion are available and where some couples attempt to regulate the number and spacing of their children. In such populations, women who have used contraceptives are more likely than never-users to have an abortion, and vice versa. The reason for this may be that women who have practiced contraception or had abortions desire to control their fertility and are likely to have fewer religious objections to fertility control than others. In Korea, for example, according to a 1971 survey of 5,600 ever-married women, about 46 percent of contraceptive users had had one or more abortions, compared with 12 percent of nonusers. Conversely, 73 percent of women who had had at least one abortion were practicing contraception, compared with 29 percent of women who had never had an abortion. After standardization by age of woman at the time of the survey, these percentages were 46, 11, 58 and 23, respectively; the pattern of differences remained the same (Han, 1973, p. 32; Tietze, 1979, p. 90).

Among women who do not want to become pregnant but do not practice contraception consistently, the abortion *ratio* tends to be high because they have many unwanted pregnancies. Women who practice contraception consistently and effectively have fewer unwanted pregnancies and, therefore, display a lower abortion ratio and *rate* over a period of time than those who practice contraception ineffectively or not at all (Gaslonde, 1976).

An important aspect of the complex relationship between abortion and contraception concerns the number of abortions required to replace one live birth. In reference to a given pregnancy, the answer to this question is, of course, one, since a pregnancy can be terminated only once; but a different answer is required when one considers an entire population.

The interval between two successive conceptions has three components: the pregnancy itself, a postgestational anovulatory period, during which conception cannot occur, and an ovulatory period, during which the monthly probability of conception is more than zero but less than one.

Induced abortion reduces the duration of pregnancy from about nine months to about three months. It also shortens the postgestational anovulatory period; the amount of the shortening depends on the extent and duration of breastfeeding that would occur if the woman gave birth. Abortion would not affect the average time required for conception during the ovulatory period. With breastfeeding of moderate or long duration and without contraception, the second component is comparatively long and the third component is short, the net effect being that 2–3 abortions are required to avert one live birth. If contraception is practiced effectively, the ovulatory period is extended relative to the other segments of the interval, with the result that only slightly more than one abortion is required to avert one birth (WHO, 1970). Abortion alone is an inefficient method of fertility regulation; however, it becomes progressively more efficient as the expanding use of contraceptives relegates its role to a backup measure.

Abortion patients' reported patterns of contraceptive use at conception reflect the patterns of use in the general population, but the two are by no means identical. The distribution of methods used at time of conception by women obtaining abortions is a function of three factors (assuming accurate reporting): the distribution of methods used, and nonuse of contraceptives, among women in the general population; the failure rate associated with each method and the pregnancy rate among nonusers; and the likelihood that a woman will choose abortion to terminate a pregnancy resulting from contraceptive failure or nonuse (Westoff et al., 1981). The risk of pregnancy is greatest if no contraceptive is used, is higher for women using barrier methods than for those using medical methods and is greater for those relying on reversible methods than for those protected by sterilization. Thus, abortion patients are more likely than women in the general population to have been using no method and, if they were practicing contraception, to have been using a reversible method, particularly a barrier method. A study of abortion patients in the state of Illinois found that 27 percent of abortion patients ordinarily used no contraceptive and 58 percent were using none when they became pregnant; by comparison, an estimated 13 percent of sexually active women at risk of unintended pregnancy in the general population were nonusers (Westoff et al., 1981). Contraceptive use often improves after abortion, because of the concurrent provision of contraceptive information, counseling and methods (Westoff et al., 1981). Sterilization can be performed at the time of abortion (see Chapter 7), and postabortion IUD insertion has been shown to be feasible and safe (Liskin and Fox, 1982).

Although abortion and contraception serve the same ultimate purpose, patterns of change over time in the use of these two methods of birth prevention, as reflected by the abortion rate and the rate of known pregnancies (based on the sum of legal abortions and live births six months later) are not at all uniform. A change in the abortion rate may be associated with a change in the pregnancy rate in the same direction or in the opposite direction. This apparent paradox reflects the multiplicity of factors determining the rate of known pregnancies, including the following:

- changes in the distribution of women by age and marital status within the reproductive age range;
- changes in the proportion of unmarried women who are sexually active and in the frequency of nonmarital intercourse;
- changes in the proportion of sexually active women who intend to conceive and give birth;
- changes in the contraceptive behavior of women who are sexually active but do not wish to conceive (i.e., adoption or abandonment of contraceptives, method-switching, and changes in the level of contraceptive vigilance); and
- changes in the frequency of clandestine abortions, which are not included in the official statistics, especially in the first few years following legalization.

For most countries in recent years, pregnancy rates have been declining, while abortion rates have been rising, remaining constant or declining. (All countries with trend data in Table 2 show pregnancy rates that have declined since the early or mid-1970s except for the German Democratic Republic, Greenland, Poland, the United States and Yugoslavia.) Such declines in pregnancy rates do not prove, but strongly suggest, trends toward wider or more successful contraceptive practice.

In England and Wales, rates of known pregnancies declined among married and unmarried women from 1971 to 1977. From 1978 through 1980, rates of pregnancies, abortions and births increased among both groups, reflecting, at least in part, a change from use of oral contraceptives to reliance on less-effective methods (Bone, 1982; United Kingdom, 1982a). After remaining stable at 127,000–129,000 per year between 1980 and 1983, the number of abortions rose to 136,000 in 1984. This increase was due in part to a 1983 pill scare. Three months after the initial publicity, the abortion rate rose sharply, especially among women aged 20–24, who were the most likely group to be pill users (Laurence, 1985).

In Denmark, the authorization of abortion on request in 1973 was followed by a marked increase not only in legal abortions but also in the estimated number of conceptions. There also followed an equally marked decline in sales of oral contraceptives, while sales of IUDs increased (Somers and Gammeltoft, 1976). The transfer of an unknown number of abortions from the illegal to the legal sector cannot be ruled out as a factor in the increase in the number of recorded conceptions. After 1975, sales of oral contraceptives increased once more (although not to their earlier levels); sales of IUDs rose further; and the number of recorded conceptions (i.e., the sum of legal abortions and births) declined (Denmark, 1984).

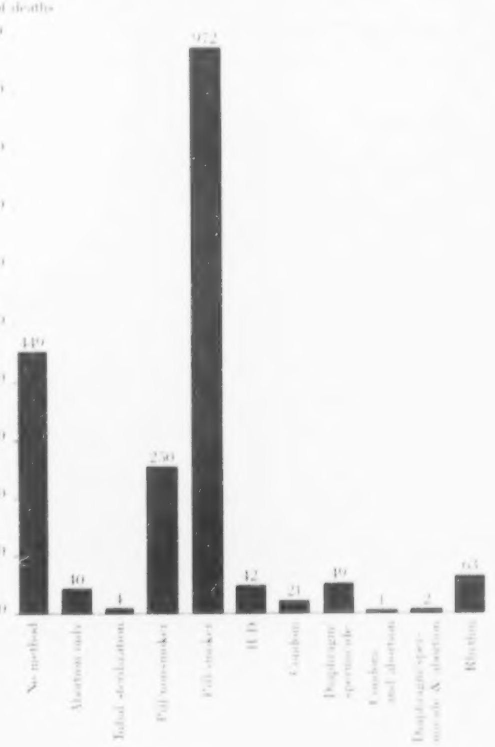
Use of oral contraceptives in Hungary, as estimated from pill sales, increased from less than four percent of women aged 15–44 in 1969 to 28 percent in 1978, while the rate of known pregnancies dropped from 158 to 109 per 1,000 women (Mikolás, 1980).

In Sweden, the implementation of the new abortion law in 1975 was followed, over the next three years, by a 60 percent increase in pill sales, while the rate of legal abortions remained virtually constant and the pregnancy rate declined by nine percent (Meirik et al., 1979). A major provision of the 1975 Abortion Act was the improvement of sex education and contraceptive services for adolescents. Among teenagers, the pregnancy rate dropped, and the abortion rate declined by slightly more than one-third between 1975 and 1982, apparently because of increased contraceptive use (Jones et al., 1986).

In the United States, decreased use of the pill and IUD was one cause of the increased abortion rate between 1975 and 1980 (Henshaw et al., 1984). Conversely, a decline in the abortion rate among residents of the Netherlands between 1980 and 1984 was ascribed to increased reliance on oral contraceptives and contraceptive sterilization (Ketting and Leseman, 1986).

The final issue linking abortion and contraception concerns the risk associated with these two methods of fertility regulation. While more than one abortion is required to replace one birth, the risk to life associated with early legal abortion is much lower than birth-related maternal mortality. Hence, even women who control their fertility exclusively by obtaining such abortions are subject, over a given period, to a lower risk of dying from pregnancy-related causes than would be the case if they carried all unwanted pregnancies to term. This is true whether or not contraceptives are used, and probably applies to nonfatal complications as well. It has been conclusively demonstrated (Tietze and Lewit, 1979; Tietze et al., 1976; Ory, 1983) that reliance on barrier methods, with early abortion as a backup, is the safest reversible regimen of fertility regulation at any age (see Figure 14).

Figure 14. Estimated cumulative lifetime number of deaths per 100,000 nonsterile women aged 17–44, by type of fertility control method used: United States



Note: Includes deaths related to pregnancy resulting from contraceptive failure.

Source: Alan Guttmacher Institute, 1983, p. 36.

Repeat Abortions

11

The issue of repeat abortion is a matter of concern for two basic reasons. Some view repeated abortions as evidence of reliance on abortion as a primary method of fertility regulation or, at the least, of carelessness in contraceptive practice; such individuals feel that this is unacceptable and that women should resort to abortion only as a backup measure when contraceptives have failed. Others fear that any possible adverse effects of abortion on the health of a woman or on the outcome of later pregnancies would be cumulated by multiple abortions.

Table 18 presents data derived from the routine abortion statistics of several countries and of New York City. The numbers of prior induced abortions were obtained from the abortion patients themselves and are, therefore, subject to response error and, in some cases, deliberate denial or understatement. Twenty-one percent of women obtaining abortions in Hawaii in 1970 through 1976 who had had prior legal abortions did not report them (Steinhoff et al., 1979). In England and Wales, the record of prior abortions included only those obtained under the Abortion Act of 1967. Although authorities in other countries ask about prior induced abortions without specifying legal abortions, it is believed that few women report abortions obtained in illegal settings. The importance of this source of underreporting declines as the number of years since legalization increases.

In general, the proportion of all legal abortions that are repeat procedures rises with the abortion rate, because the proportion of women in the population who have had an abortion and are therefore at risk of a repeat unintended pregnancy and abortion increases. The proportion stabilizes some time after the abortion rate becomes level. In some countries, a high frequency of surgical sterilization concurrent with abortion (see Table 15) reduces the risk of repeat abortion. Repeat abortions represent high proportions of all procedures (23 percent or more) in Finland, Hungary, Italy, Norway, Singapore, Sweden and the United States (notably New York City). All of these countries, except Finland, have abortion rates of 16 or more per 1,000 women aged 15-44 (see Table 2). Although Japan's official statistics do not contain any data on repeat abortions, a small study in Tokyo reported that such procedures accounted for 61 percent of all abortions during 1967/72 (Miyamoto, 1973). Adjustment to the age distribution of all women obtaining abortions in Tokyo in 1970 raises the proportion of repeaters to 68 percent, including 28 percent who had had one prior abortion, 19 percent who had had two and 21 percent who had had three or more. The very large proportion of repeaters is not surprising, given that abortion rates are high in Japan and, presumably, higher in Tokyo (Muramatsu, 1973, 1978).

Levels of repeat abortions, especially of abortions of third and higher orders, have increased rapidly in countries where restrictive abortion laws and practices have only recently been relaxed and access to pregnancy termination services has improved, such as the United States. This rapid increase does not reflect a progressive change from contraception to abortion as the primary method of fertility regulation; rather, it is due largely to the fact that once a growing number of women have had a first legal abortion, more are at risk of having a repeat abortion. Figure 15 illustrates this situation for the United States for the period between 1975 and 1982. In Hungary, where abortion on request became legal in 1956, the situation was quite different. There, by the late 1960s, the number of women who had had at least one abortion had almost stabilized, at more than one-half of the female population of reproductive age, and the proportion and distribution of women obtaining repeat abortions had also stabilized. The implementation of a more restrictive abortion law in Hungary in January 1974 resulted in a modest decline in the share of repeat abortions, to just one-half of the total in 1980.

Rates of repeat abortions per 1,000 women at risk of experiencing them are always much higher than rates of first abortions per 1,000 women who have had no prior abortions. Although almost all

Table 18. Percentage distribution of women obtaining abortions, by number of prior induced abortions:[1] Selected areas, years and characteristics

Area, year and characteristic	Prior abortions			
	0	1	2	3 or more
Canada				
1974	92.1	7.0	0.7	0.2
1975	91.2	7.8	0.8	0.2
1976	89.7	9.1	1.0	0.2
1977	88.4	10.1	1.2	0.3
1978	86.7	11.3	1.6	0.4
1979	85.7	12.2	1.7	0.4
1980	84.4	13.1	2.0	0.5
1981	83.3	14.0	2.2	0.5
1982	82.0	14.9	2.5	0.6
1983	80.6	15.8	2.8	0.8
1984	79.9	16.1	3.0	0.9
Age, 1982				
19 or less	92.0	7.5	0.5	0.0
20–24	81.0	16.5	2.2	0.3
25–29	75.6	19.6	3.8	1.0
30–34	74.7	19.2	4.4	1.6
35 or more	79.6	14.5	4.2	1.6
England and Wales[2,3]				
1970	98.4	1.6		
1971	97.5	2.5		
1972	96.3	3.7		
1973	95.0	5.0		
1974	94.2	5.8		
1975	93.5	6.5		
1976	92.2	7.8		
1977	92.1	7.9		
1978	91.3	8.7		
1979	90.6	9.4		
1980	89.8	10.2		
1981	87.5	12.5		
1982	86.6	13.4		
1983	85.8	14.2		
Age, 1983				
19 or less	95.4	4.6		
20–24	88.0	12.0		
25–29	85.0	15.0		
30–39	88.4	11.6		
40 or more	91.7	8.3		
Finland				
1976	82.1	15.5	2.1	0.3
1977	81.1	15.8	2.6	0.5
1978	80.5	16.7	2.6	0.7
1979	79.5	16.8	3.0	0.7
1980	78.5	17.5	3.1	0.9
1981	78.3	17.4	3.3	1.0
1982	77.9	17.8	3.5	0.8
1983	77.4	17.6	3.9	1.1
France				
1979	89.0	9.2	1.3	0.5
1980	88.0	10.1	1.5	0.5
1981	86.8	11.1	1.7	0.5
1982	85.6	12.0	1.8	0.6
Hungary				
1971	42.3	25.8	14.6	17.3
1972	42.5	25.7	14.6	17.2
1973	42.4	25.8	14.7	17.1
1974	43.3	25.5	14.4	16.8
1975	45.6	25.5	13.4	15.5
1976	47.0	25.4	13.3	14.3
1977	47.9	25.8	12.8	13.5
1978	49.4	25.5	12.6	12.5
~~1979~~	50.0	25.9	12.3	11.8
Hungary (continued)				
1980	50.1	26.5	12.3	11.1
1981	50.3	26.6	12.3	10.8
1982	50.6	26.7	12.3	10.3
1983	50.8	26.7	12.4	10.1[4]
Age, 1983				
19 or less	88.0	10.5	1.2	0.3
20–24	68.4	22.8	6.3	2.4
25–29	53.9	28.6	11.0	6.5
30–34	41.8	31.5	15.5	11.2
35–39	31.4	31.0	18.7	19.0
40 or more	25.9	27.3	21.0	25.9
Prior live births, 1983				
0	79.5	16.0	3.1	1.3
1	54.1	27.9	10.9	7.1
2	44.6	30.0	15.0	10.4
3	35.1	29.5	17.3	18.0
4	28.0	28.6	17.6	25.8
5 or more	25.6	25.1	18.1	31.1
Marital status, 1983				
Never married	76.3	16.8	4.2	2.7
Currently married	45.5	28.8	14.1	11.5
Previously married	35.4	31.7	17.1	15.8
Secondary	55.3	26.3	11.1	7.3
Higher	54.5	27.6	11.0	6.8
Iceland				
1976–78	89.5	10.5		
India[5]				
1975/77	93.5	5.8	0.7	
Italy				
1983	75.1	18.0	4.5	2.4
Netherlands				
1981	83.0	14.4	2.0	0.6
1982	82.5	14.2	2.4	0.9
1983	81.8	15.2	2.2	0.8
1984	80.9	15.4	2.7	1.0
New York City[2,6]				
1972[7]	86.4	11.3	1.7	0.6
1973	82.2	14.6	2.4	0.8
1974	78.5	17.0	3.5	1.0
1975[8]	71.6	21.4	5.2	1.8
1976	66.4	24.3	6.8	2.5
1977	62.0	26.5	8.1	3.4
1978	57.7	28.0	9.9	4.4
1979[9]	54.3	28.6	11.5	5.6
1980	52.1	29.1	12.3	6.5
1981	48.1	30.1	13.7	8.0
1982	46.3	30.2	14.4	9.1
1983	44.8	30.0	15.3	9.9[10]
Age, 1983				
17 or less	78.6	17.7	3.0	0.6
18–19	61.7	28.4	7.6	2.4
20–24	44.0	32.3	15.6	8.0
25–29	35.0	31.8	19.1	14.1
30–34	33.6	30.6	19.6	16.2
35–39	35.7	29.7	19.4	15.3
40 or more	38.9	30.3	18.3	12.5

Note: For sources not indicated, see Table 2.

1. Women who had had an unknown number of prior abortions are distributed pro rata.
2. Residents only.
3. Prior abortions under the 1967 Abortion Act.
4. Includes 5.2 percent who had had three prior induced abortions, 2.4 percent who had had four, and 2.5 percent who had had five or more.
5. India, 1981.
6. Women who had had an unknown number of prior abortions are assumed to have had none.
7. 1972–74: Pakter et al., 1975.
8. 1975–78: New York City, 1976–79.
9. 1979–83: New York State, 1985.
10. Includes 6.1 percent who had had three prior induced abortions, 2.3 percent who had had four, and 1.6 percent who had had five or more.

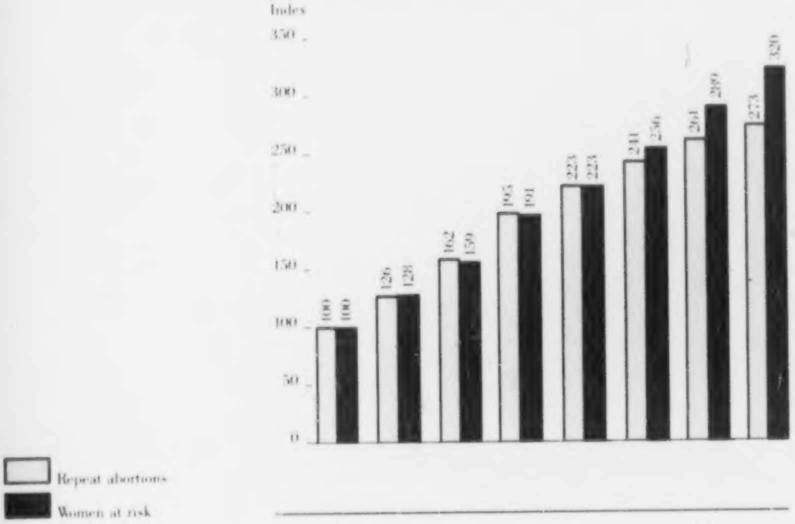
Area, year and characteristic	Prior abortions			
	0	1	2	3 or more
New Zealand				
1976	94.3	5.1	0.5	0.1
1977	93.1	6.3	0.5	0.1
1978	94.5	4.9	0.5	0.1
1979	94.4	5.2	0.3	0.1
1980	92.6	6.7	0.6	0.1
1981	90.1	9.0	0.7	0.2
1982	89.7	9.2	0.9	0.2
1983	87.8	10.6	1.2	0.4
Norway				
1979	78.9	17.6	3.5	
1980	78.2	18.2	3.6	
1981	77.9	18.0	4.1	
1982	77.0	18.8	4.3	
1983	76.9	18.8	4.3	
Singapore				
1976	87.3	12.3	0.3	0.1
1977	83.8	14.1	1.7	0.4
1978	79.5	16.9	2.8	0.8
1979	75.2	19.2	3.9	1.7
1980	76.7	16.9	4.2	2.2
1981	74.5	17.6	5.2	2.6
1982	70.4	19.9	6.2	3.5
1983	64.7	25.1	7.4	2.9
Sweden				
1975	81.2	15.3	2.6	0.9
1976	78.8	17.2	2.9	1.1
1977	77.5	18.0	3.4	1.1
1978	76.5	18.4	3.9	1.2
1979	74.8	19.5	4.1	1.6
1980	72.5	21.1	4.7	1.7
1981	71.0	21.8	5.4	1.9
1982	69.5	22.5	5.8	2.3
1983	67.4	23.3	6.5	2.7
1984	66.5	24.2	6.6	2.7
Age, 1983				
19 or less	88.6	10.1	1.1	0.2
Sweden (continued)				
20–24	69.7	23.8	5.2	1.3
25–29	57.5	29.3	9.4	3.8
30–34	58.1	27.6	9.2	5.1
35 or more	64.9	24.6	7.4	3.1
United States				
Reported to the CDC				
1974	86.8	11.3	1.5	0.4
1975	81.9	14.9	2.5	0.7
1976	79.9	16.6	2.6	0.9
1977	76.8	18.3	3.4	1.5
1978	70.8	22.1	5.3	1.8
1979	69.0	23.0	5.9	2.1
1980	67.6	23.5	6.6	2.3
1981	65.3	24.3	7.5	2.9
1982	63.7	24.9	8.2	3.2
Estimated by the AGI[11]				
1974	84.8	12.5	1.9	0.8
1975	79.5	16.5	2.9	1.1
1976	77.3	18.1	3.4	1.2
1977	73.9	20.6	4.1	1.4
1978	70.7	22.5	5.0	1.8
1979	68.4	23.5	5.8	2.3
1980	67.1	24.0	6.3	2.6
1981	64.9	24.7	7.1	3.3
1982	63.2	25.3	7.8	3.7
Age, 1981 (12 states)[12]				
19 or less	80.5	16.5	2.5	0.5
20–24	60.0	27.9	8.7	3.4
25–29	51.9	29.7	12.1	6.3
30–34	53.4	27.1	11.8	7.6
35–39	56.6	25.7	10.8	6.8
40 or more	62.1	21.7	9.4	6.7
Race, 1981 (12 states)[12]				
White	66.4	23.5	7.0	3.1
Black	54.5	28.4	11.3	5.8
Other	63.8	23.7	7.9	4.6

women who have recently had an abortion are at risk of a repeat procedure, many women who have never had an abortion are at little or no risk because they are not sexually active, are infecund or surgically sterile or are reluctant to have an abortion to resolve an unintended pregnancy. For the United States, a plausible estimate of the rate of repeat abortions in 1982 is 60 per 1,000 women aged 15-44, compared with a rate of 22 first abortions per 1,000 (Tietze and Bongaarts, 1982, updated to 1982). This finding should not be interpreted as evidence of a deterioration of contraceptive practice after the first abortion. Rather, the difference reflects the heterogeneity of the female population with regard to the need for and reliance on abortion as a method of fertility control. U.S. experience fits closely a model in which 45 percent of women of childbearing age have a zero probability of abortion, 18 percent have a probability equal to the overall national abortion rate, 36 percent have twice the national rate and one percent have 10 times the national rate (Tietze and Bongaarts, 1982). The heterogeneity in the probability of obtaining an abortion has a number of causes. The incidence of unintended pregnancy and abortion varies with age, parity and marital status. Access to abortion services varies widely among localities and socioeconomic groups. In addition, attitudes and

[11] Adjusted for changes from year to year in the number of states reporting to the CDC.

[12] Prager, 1985.

Figure 15. Number of repeat legal abortions and number of women at risk of having a repeat abortion: United States, 1975–82, indexed to 1975



behavior range from complete rejection of abortion under all circumstances, to acceptance of abortion in some situations (e.g., for termination of out-of-wedlock pregnancy or for family limitation, but not for spacing births within marriage), to acceptance of abortion of all unintended pregnancies. Other factors being equal, the difference between rates of first and repeat abortions increases with the degree of heterogeneity of the population with regard to abortion practices (Tietze and Jain, 1978; and Tietze and Bongaarts, 1982). Extensive review of U.S. studies comparing repeat and initial abortion patients indicates that the two groups are quite similar and that few women are identifiable at the first procedure as being at high risk of having a repeat unintended pregnancy and abortion (Forrest and Henshaw, 1984).

The relationship of repeat abortion to age varies among those areas for which data are available. Everywhere, the likelihood that an abortion is a repeat procedure is lowest among women aged 19 or younger. In Hungary, the proportion of abortions that are repeat procedures, especially of fourth and higher orders, increases with age to a maximum at 40 years and over. In Canada, England and Wales, New York City, Sweden and the United States as a whole, the high point is reached earlier, suggesting either incomplete reporting among older women or, more likely, more frequent resort to abortion by the more recent cohorts of women.

Very detailed information on repeat induced abortions, including the interval since the most recent abortion, is available for Hungary. Among the women who, in 1971, reported having had two induced abortions without an intervening pregnancy, almost one-half reported an interval of less than two years. This proportion declined very slowly to 45 percent in 1973, and more rapidly thereafter to about one-third in 1975 and subsequent years (Hungary, 1977, 1984). These changes reflect the reduction in the overall number of abortions in Hungary.

Because the Danish statistical system permits record linkage of all abortions obtained by the same woman during a two-year period, documented information on repeat abortion is available from that country. Of the women who had an abortion in 1982, about 4.5 percent had another abortion during the following 12 months (Denmark, 1984). The proportion of repeaters was highest among women in their early 20s. In Hawaii, during the period 1970–74, 0.6 percent of women had repeat abortions in the year after their first abortion (Steinhoff et al., 1979).

Abortion Service Delivery 12

This chapter relies heavily on Ketting and van Praag (1985) for information about Western Europe and on David and McIntyre (1981) for information about Eastern and Central Europe. Other sources of information were the questionnaires returned from statistical offices and, for New Zealand, Sceats (1985).

Type of Facility

In the 1960s, it was widely believed that abortion services should be provided only in hospitals, but subsequent experience in a number of countries has shown that abortions can be performed safely in other types of facilities. In the United States, large numbers of abortions have been performed in freestanding clinics since around 1970. Between 1974 and 1977, mortality associated with first-trimester abortion was no higher among women whose abortions were performed in nonhospital facilities than among those who obtained abortions in hospitals, even when women who had preexisting complications or who were undergoing concurrent sterilization were excluded (Grimes et al., 1981). A second study found that mortality associated with second-trimester abortion by instrumental evacuation (D&E) was lower when the abortion was performed in clinics than when it was performed in a hospital (Cates, 1981). It was not possible in that study, as it had been in the study of first-trimester abortions, to exclude women who had preexisting complications or who underwent concurrent sterilization, but it is likely that there would be no difference by facility if these factors were controlled for.

In several countries, clinic abortions have become increasingly common since the early 1970s. As may be seen in Table 19, about 52 percent of legal abortions in the United States in 1973 took place in hospitals, and the remaining 48 percent were performed in nonhospital facilities (mainly clinics). By 1982, only 18 percent of abortions were performed in hospitals. Over the decade, a small proportion, estimated at about 2–6 percent, took place in the offices of private physicians who performed fewer than 400 abortions a year. One reason for the rapid growth of abortion clinics was the inadequate response of the traditional health services to the changes in the legal status of abortion that have occurred in the United States since 1967. Most U.S. hospitals have never provided abortion services. In 1982, the most recent year for which information is available, abortions were provided in only 26 percent of all non-Catholic general hospitals and 16 percent of public hospitals. If hospitals reporting fewer than two abortions per week are excluded, these proportions are reduced by about one-third. Twenty-eight percent of women lived in counties with no facility providing any abortions (Henshaw et al., 1984).

The German Federal Republic has also experienced a rapid increase in the proportion of reported abortions occurring in nonhospital facilities (mainly in gynecologists' offices). The proportion of reported procedures occurring outside of hospitals rose from 15 percent in 1977 to 57 percent in 1984. In addition, many unreported legal abortions probably occur in physicians' offices. Some states (*Bundesländer*), particularly those in the southern part of the country, prohibit abortions in physicians' offices, a restriction that causes women to seek services in other states or abroad.

In the Netherlands, an estimated 74 percent of abortions obtained by residents in 1984 took place in clinics; when nonresidents are included, the estimated proportion is 89 percent (not shown). Hospital abortions may have been preferred by some residents of the Netherlands because until recently, the national health insurance program paid for these, but not for clinic abortions. Many women utilized clinics because they were unable to obtain abortion services from a hospital.

In a number of areas, because of legal requirements, abortions are performed only in hospitals. For example, the federal abortion law in Canada permits abortions only in approved hospitals with abortion committees. Bulgaria, Czechoslovakia, Denmark, Finland, France, the German Democratic Republic, Hungary, New Zealand, Romania and the Soviet Union are other countries permitting abortions only in hospitals. In Sweden, the vast majority of abortions are performed in hospitals, but some gynecologists in the southern part of the country have permission to perform very early abortions in their private offices.

In France, 53 percent of abortions in 1982 were performed in 90 "centres d'interruption volontaire de grossesse," which are under the administrative

Table 19. Percentage distribution of women who obtain abortions, by type of facility and length of stay:[1] Selected areas and years

Area and year	Non-hospital facility	Hospital: Number of nights spent 0	1	2	3	4	5 or more
Canada[2]							
1974	0.0	29.5	27.9	21.7	8.4	12.5	
1975	0.0	34.9	26.8	21.6	7.9	8.8	
1976	0.0	37.9	28.8	19.7	6.9	6.7	
1977	0.0	47.9	22.2	18.8	5.9	5.2	
1978	0.0	53.4	21.6	15.4	5.1	4.5	
1979	0.0	57.4	21.0	14.5	4.0	3.1	
1980	0.0	59.7	21.4	12.6	3.6	2.6	
1981	0.0	64.2	20.9	10.1	2.8	1.0	1.2
1982	0.0	67.8	19.4	8.7	2.4	0.8	0.9
1983	0.0	72.5	16.5	7.4	2.1	0.8	0.8
Denmark							
1981	0.0	28.5	61.9			9.6	
1982	0.0	32.5	59.1			8.4	
1983	0.0	38.3	54.4			7.2	
England and Wales[3]							
1981	0.0	25.5	44.1	24.1	3.3	1.1	1.9
1982	0.0	29.0	42.0	23.5	2.9	1.0	1.6
1983	0.0	32.1	40.3	22.8	2.6	0.8	1.4
German Federal Republic							
1977	15.1	6.2	1.9	6.1	13.0	57.8	
1978	23.2	9.5	2.5	6.1	13.4	45.3	
1979	31.9	10.8	2.8	7.1	11.9	35.4	
1980	34.9	12.4	2.7	7.0	11.4	31.7	
1981	39.9	12.1	3.2	6.0	9.8	29.0	
1982	44.0	10.6	2.7	7.2	9.5	26.1	
1983	50.1	9.6	2.4	7.0	8.3	22.7	
1984	56.5	8.3	2.2	6.3	7.7	19.1	
Hungary[4]							
1981	0.0	0.0	85.2	11.6	2.0	1.2	
1982	0.0	0.0	85.4	11.4	2.2	1.1	
1983	0.0	0.0	82.3	13.8	2.7	1.2	
Italy							
1981	1.0	18.8	80.3				
1982	1.2	33.8	65.0				
1983	3.8	43.7	30.5	14.7	4.2	1.8	1.3
Netherlands[5]							
1984	74.3	25.7					
Poland							
1970	26.4	73.6					
1971	27.6	72.4					
1972	35.1	64.9					
1973	36.7	63.4					
1974	38.8	61.2					
1975	41.6	58.4					
1976	43.8	56.2					
1977	47.9	52.1					
1978	47.4	52.6					
1979	48.9	51.1					
1980	49.8	50.2					
1981	50.6	49.4					
1982	50.1	49.9					
1983	49.1	50.9					
Scotland							
1981	0.0	19.1	17.3	49.1	8.1	3.2	3.3
1982	0.0	24.1	17.8	45.3	7.6	2.5	2.8
1983	0.0	24.4	18.8	46.0	6.7	2.3	1.8
Sweden[6]							
1971	0.0	16.3	83.7				

Note: For sources, see Table 2.

[1] Women for whom type of facility or length of stay is unknown are distributed pro rata.

[2] Excludes clinic abortions performed in Quebec.

[3] Residents only. Some of the hospitals provide mainly abortion services and are similar to nonhospital facilities in other countries.

[4] Hospitals include maternity homes.

[5] Abortions in hospitals are estimated from sample surveys. Two of the nonhospital facilities allow patients to stay overnight, and one is located within a hospital. Data apply to residents only; almost all abortions provided to nonresidents are performed in nonhospital clinics.

[6] Hospital outpatient category includes a few abortions performed in private gynecologists' offices at early gestations.

Area and year	Non-hospital facility	Hospital					
		Number of nights spent					
		0	1	2	3	4	5 or more
Sweden (continued)							
1972	0.0	24.7	75.3				
1973	0.0	31.4	68.6				
1974	0.0	47.2	52.8				
1975	0.0	63.1	36.9				
1976	0.0	68.7	31.3				
1977	0.0	73.6	26.4				
1978	0.0	74.3	25.7				
1979	0.0	76.2	23.8				
1980	0.0	77.9	22.1				
1981	0.0	80.7	19.3				
1982	0.0	81.8	18.2				
1983	0.0	82.9	17.1				
United States							
1973	48.0	52.0					
1974	53.0	47.0					
1975	60.0	40.0					
1976	65.0	35.0					
1977	70.0	30.0					
1978	75.0	25.0					
1979	77.0	23.0					
1980	78.0	12.0	10.0				
1981	81.0	11.0	8.0				
1982	82.0	12.0	6.0				

domain of hospitals and are, in practice, abortion clinics within hospitals. In the same year, the government ordered all public hospitals that could not meet the demand for abortion services to install such centers.

In some countries, abortions after a certain period of gestation must be performed in hospitals. In the German Federal Republic, abortions in nonhospital facilities are allowed only up to the 10th week. In the United States, on the other hand, there are no limits in most states, and the Supreme Court has found that before about 18 weeks' gestation, there is no medical basis for restricting abortions to hospitals and that such restrictions are, therefore, unconstitutional.

The distinction between a hospital and a clinic differs among countries, with the result that statistics and policies may not be directly comparable. In general, a hospital is a facility with inpatient (overnight) services, and a clinic serves ambulatory (day) patients only, but there are many exceptions. In the Netherlands, two of the abortion clinics allow patients to stay overnight, and one clinic, like the French abortion centers, is located within a hospital. In some countries where abortion is limited to hospitals, it may be possible for facilities closely resembling clinics to satisfy the legal definition of a hospital and provide abortion services. This occurred in California before 1973. In England and Wales, all abortions are performed in facilities that are considered hospitals for administrative purposes; but in several such facilities that are much like clinics, a majority of operations are abortions.

In Europe, many regulations reflect attempts to avoid the commercialization of abortion services, on the basis of the view that medical care should be a public service, not a profit-making enterprise. In France and Italy, for example, abortions may not constitute more than 25 percent of the surgical procedures in any facility; this regulation effectively prevents the creation of specialized abortion facilities. Other regulations intended to prevent commercialization prohibit advertising of abortion services, forbid providing services to foreign women and limit prices for abortions. In the United States, on the other hand, many abortion clinics are operated for profit, and advertising is common. This arrangement is believed to create competition, which results in lower charges to patients, an important factor in the United States because only a minority of abortions are paid for by insurance or public funds.

There has been an almost universal trend toward performing hospital abortions as ambulatory procedures, without requiring overnight stays. Hungary is the only country reporting data where all abortion patients must stay in the hospital at least overnight; even there, 82 percent stay only one night. In Sweden, the proportion of outpatient abortions increased from 16 percent in 1971 to 83 percent in 1983. In the United States in 1982, only one-third of hospital abortions, representing six percent of all abortions, were inpatient procedures. In the German Federal Republic, on the other hand, 19 percent of reported abortions in 1984 involved a hospital stay of four or more days, and the average duration of hospitalization among women obtaining suction curettage abortions in hospitals was 3.9 days.

There are a number of medical indications for hospitalization of abortion patients, including late gestation, preexisting health conditions that increase risk and complications from the abortion itself. Patients may be hospitalized for concurrent sterilization procedures, although concurrent sterilization can be provided in nonhospital clinics, as is sometimes done in the United States. Use of general anesthesia may be given as a reason for performing abortions in hospitals, although it, too, is frequently provided in clinics and physicians' offices. In Eastern and Central Europe, China and perhaps other areas, patients may regard hospitalization as a desired luxury. In the United States, insurance coverage for inpatient care may provide an economic incentive for some women to choose hospital abortion services. Finally, local traditions and preferences of physicians may favor inpatient care.

Disadvantages of hospitalization are increased cost for the patient or the medical care financing system, possible delay if a hospital bed is not immediately available and inconvenience for the woman. An overnight hospital stay jeopardizes privacy for some patients, since friends and associates are likely to notice a woman's absence.

An important characteristic of abortion services in North America is their high degree of concentration in a few facilities. In the United States, 76 percent of all legal abortions in 1982 were provided at a mere 64 hospitals and 439 clinics that perform 1,000 or more abortions per year; the average caseload among these providers is about 50 abortions per week. These facilities represented 17 percent of all providers of abortion services. In Canada, 43 hospitals that perform more than 400 abortions each, or one-sixth of all hospitals providing abortion services, reported 76 percent of all legal abortions in the same year. This concentration probably increases the experience and competence of the professionals involved and, thereby, the quality of the services. On the other hand, follow-up care is fragmented, with possible unfavorable effects on the patient (Hodgson, 1975).

Financing Abortion Services

Health care services may be operated by government bodies, may be privately operated but financed by universal health insurance, or be privately operated and financed by a combination of patient fees and insurance. In any country, a combination of two or three of these arrangements may coexist, but one of them usually predominates. The Eastern European countries and Sweden are examples of countries with governmentally operated health care systems. Most other industrialized countries have national health plans that pay for services provided in independently operated facilities. The United States is the only large industrialized country that relies mainly on patient fees and private insurance, supplemented by government insurance for the elderly, the disabled and the very poor, to finance health care.

In most countries, abortion services are organized and financed in the same way as other medical care services. As may be seen in Table 20, in many countries—for example, Denmark, Italy and Norway, as well as the German Democratic Republic—abortion services (like most health care) are provided without charge to any patient. In some systems, copayments are required of some or all patients. In Sweden, patients must pay small charges for abortions, as they must for other medical services. In Canada, physicians in some provinces may bill patients to supplement the amount paid by the provincial health plan.

In several countries, patients have a choice of utilizing a public facility, where there is no charge, or of paying for abortion services in a private hospital, clinic or physician's office. In England and Wales, almost half of residents seeking abortions (47 percent in 1983) pay for abortions in approved facilities outside the National Health System (NHS). Among the reasons for use of private facilities in England and Wales are delays and bureaucratic procedures in NHS hospitals; the fact that some NHS hospitals will provide abortions only on certain limited indications; and, until recently, the absence of outpatient services within the NHS. In Poland, many women obtain abortions from private clinics and physicians, where they must pay a fee, because these providers offer increased confidentiality and sometimes general anesthesia, which is not always available in hospitals.

In only a few countries are provisions for financing abortion services different from those for other medical services. In France, abortion for nontherapeutic reasons was not covered under the national health insurance plan until 1983. Since then, health insurance has paid 75 percent of the cost of each abortion; the woman pays the rest. As of around 1980, Bulgaria charged a "tax" equivalent to U.S. $5.00, except for medically necessary abortions. In Hungary, a fee covering actual costs is charged for abortions performed for nonmedical reasons, but it "can be waived in cases of demonstrated need. Working women are eligible for two days' paid sick leave after abortion when a physician so recommends" (David and McIntyre, 1981, p. 254).

Abortion facilities in the Netherlands grew up mostly outside the hospital system. Services in hospitals were covered by the health insurance system, whereas those in freestanding clinics were not. The free abortion services in hospitals were obtainable only by those women living in areas served by hospitals with liberal abortion policies and by some women with strong medical indications for abortion. A few months after the new law was introduced, the government decided to pay directly for abortions performed in clinics. Hospital abortions continue to be covered by insurance.

In the German Federal Republic, abortions are covered by the national health insurance system. However, it is reported that some gynecologists illegally demand additional payments from patients. They can do this by suggesting to the woman that the legal grounds for abortion are weak in her particular case. Some women find it necessary to travel abroad, usually to Austria or the Netherlands, and have to pay for their abortions with their own funds. In Austria and Switzerland, only abortions for "medical indications" are covered by insurance, and most women must pay with their own funds. In Italy, all abortions are fully paid for by the state.

Since 1977 in the United States, public financing of abortion services has been subject to restrictions that are not applied to other medical services. Although most reproductive health care in the United States is financed by patient fees and private insurance, there is a joint federal-state medical assistance program, called Medicaid, designed to pay for medical care for very low-income families. Until 1977, Medicaid covered the expenses of slightly over 20 percent of women obtaining abortions. In 1976, Congress first passed the so-called Hyde Amendment to the national health appropriations bill. At present, this law prohibits federal payment for abortions except in cases where the woman's life is endangered. Enforcement of the restriction began in 1977 after being delayed by court action. Most states followed the lead of the federal government and cut off Medicaid payment for abortion services in most circumstances. After a lengthy

Table 20. Proportion of abortions that are publicly financed and of these, proportion requiring copayment: Selected countries, latest available year

Country	Year	Publicly financed abortions	
		%	Requiring copayment
Bulgaria[1]	ca. 1980	100	Most
Canada[2]	1984	100	Some
Denmark	1983	100	None
England and Wales	1983	53	None
France	1985	100	All
German Democratic Republic[1]	ca. 1980	100	None
German Federal Republic[3]	1983	ca. 100	Some
Italy	1983	100	None
Netherlands[4]	1986	100	None
New Zealand[5]	1983	82	None
Norway	1983	100	None
Romania[1]	ca. 1980	100	None
Scotland	1983	98	None
Sweden	1983	100	All
United States[6]	1983	14	None

Note: For sources not indicated, see Table 2.

1. David and McIntyre, 1981.
2. Excludes nonhospital abortions in Quebec (Jones et al., 1986).
3. Ketting and van Praag, 1985.
4. Ketting, 1986.
5. Sceats, 1985.
6. Gold and Nestor, 1985.

court battle, the Supreme Court decided in 1980 that the policy of not paying for abortion services, while paying for obstetric care, does not violate the U.S. Constitution (AGI, 1980).

Nevertheless, the supreme courts of four states—California, Connecticut, Massachusetts and New Jersey—have ruled that their state constitutions require their medical assistance programs to cover abortion services. In 1983, 11 other states[1], some of them large, and the District of Columbia were continuing to pay for Medicaid abortions "voluntarily" or under temporary court order, and 14 percent of U.S. abortions were financed under Medicaid. Since 1983, two states (Pennsylvania and Colorado) have discontinued and one (Vermont) has begun Medicaid coverage of abortion. For patients who pay with their own funds, the average charge for a first-trimester abortion in a nonhospital setting was $200 in 1983 (Henshaw et al., 1984).

[1] Alaska, Colorado, Hawaii, Maryland, Michigan, New York, North Carolina, Pennsylvania, Oregon, Washington and West Virginia.

Effects of Abortion Policy

13

The legal status of induced abortion and policies affecting the availability of abortion services can have important public health consequences. This section deals with some of the observed effects of policy and of changes in policy on mortality, morbidity, the number of legal and illegal abortions and fertility.

Mortality

Abortion policy involves more than the legal status of induced abortion. In some countries where abortions are legally restricted (*e.g.*, in Southeast Asia and South America), physicians are sometimes permitted to perform abortions on a routine basis (Liskin, 1980). This practice, sometimes referred to as medicalization, reduces overall maternal morbidity and mortality associated with illegal abortions. Where medicalization occurs without legalization, however, medically safe induced abortion services are not available for all women, since medical students do not receive adequate training for abortion procedures in a controlled hospital or clinic environment, and procedure costs are inflated. Conversely, in India and certain other areas, legalization of abortion has not eliminated illegal abortions and their related maternal mortality. In India, the medical system is not capable of providing abortion services for all women who seek them (Liskin, 1980). Although legalization may reduce maternal mortality, medicalization, with or without legalization, plays a major role.

Table 21 attempts an international comparison of mortality attributed to abortion, based on statistics about cause of death during the period 1953–82 (WHO, 1984). The countries listed in this table represent about 28 percent of the world's population and include only two of the 10 most populous nations. Countries are not shown if they either do not collect or do not publish mortality statistics by cause of death, or if their populations are too small for the computation of stable rates of abortion-related mortality even for five-year periods. For the years 1978–82, only a limited amount of comparable data could be obtained from the World Health Organization because of a change in the ninth revision of the *International Classification of Disease (ICD)* codes. The revision added ectopic pregnancy to the category of pregnancy with abortive outcomes. This change more than triples the number of deaths in the latter category in the United States, and would greatly affect any trend analysis for certain countries. To maintain comparability in Table 21, only the eighth revision *ICD* codes were used, and they were supplemented with data from the statistical offices of selected countries.

Inspection of Table 21 suggests that the reported rates of abortion mortality are more closely associated with the availability of modern methods of contraception (including surgical sterilization), with the general level of health services and with the adequacy of the registration system than with the legal status of abortion or the presumed incidence of illegal abortions performed by untrained operators. Some of the reported rates are quite plausible, such as the low rates in Japan, where abortion was legal and acessible throughout the period, and the high rates in most of Latin America. Other rates are puzzling, such as those reported from Bulgaria and Yugoslavia as late as the period 1973–77 (98 percent attributed to "other than legal" abortions), compared with the much lower rates in Czechoslovakia and Poland, countries with similar abortion laws. It would appear that in practice, even very liberal legislation does not necessarily achieve its goal of eradicating illegal abortion as long as substantial numbers of women find legal services inaccessible, too expensive, unacceptable or at least unfamiliar. These considerations would apply especially in Yugoslavia, noted for the great cultural diversity among its regions. Some village women in remote areas may well prefer the services of the local midwife or even a neighbor to those of the district hospital. Another important factor may be a real or perceived lack of privacy in the government institutions, particularly in smaller communities. One may also speculate that some, perhaps many, of the deaths attributed to illegal

The figures in text and tables were updated by William M. Sappenfield, Division of Reproductive Health, Center for Health Promotion and Education, Centers for Disease Control, Atlanta, Ga.

Table 21 Average annual number of deaths attributed to abortion[1] per million women aged 15–44: Selected areas and periods, 1953–82

Country	1953–57	1958–62	1963–67	1968–72	1973–77	1978–82
Australia	13.7	11.0	5.1	3.4 (0.0)	0.2 (0.1)	—
Austria	12.9	11.5	6.9	3.1 (0.0)	2.9 (0.0)	—
Barbados	—	—	—	47.7 (0.0)	19.5 (0.0)	—
Belgium	4.4[2]	6.0	3.7	2.6 (0.0)	1.2 (0.0)	—
Bulgaria	—	—	6.6[2]	6.4 (0.2)	9.0 (0.2)	
Canada	8.8	7.3	4.0	2.1 (0.3)	0.4 (0.1)	0.0 (0.0)
Chile	106.8[3]	143.3	141.2	80.6 (0.1)	48.4 (0.1)	—
Colombia	27.5[3]	32.9	40.8[2]	45.9 (0.0)[3]	40.7 (0.0)[3]	—
Costa Rica	—	—	—	20.1 (1.2)	15.7 (1.5)	—
Cuba	—	—	—	22.2 (0.2)[3]	12.2 (0.9)	—
Czechoslovakia	14.8	6.5	4.3	1.4 (0.1)	1.1 (0.4)[3]	1.2 (0.2)
Denmark	7.9	7.5	3.7	1.0 (0.0)	0.4 (0.0)	0.2 (0.0)
Dominican Republic	—	—	—	9.4 (0.0)	9.3 (0.2)	—
Ecuador	—	—	—	17.2 (0.3)	26.4 (0.0)[3]	—
Egypt	—	—	—	10.9 (0.0)[3]	7.9 (0.1)	—
El Salvador	—	—	—	22.6 (0.0)	—	—
England and Wales[4]	6.9	5.9	4.7	3.5 (1.0)	0.9 (0.4)	0.3 (0.2)[2]
Finland	15.5	13.7	5.9	2.4 (0.2)	1.0 (0.2)	0.0 (0.0)[3]
France	6.1	6.4	4.6	4.2 (0.1)	1.6 (0.1)	—
German Dem. Rep.	—	—	—	—	1.3 (0.4)[2]	—
German Fed. Rep.	13.1	10.0	7.4	4.7 (0.2)	2.3 (0.1)	0.8 (0.1)
Greece	—	—	0.4	0.1 (0.1)	0.2 (0.0)	—
Guatemala	—	—	—	25.7 (0.0)[3]	27.3 (0.0)[3]	—
Honduras	—	—	—	12.7 (0.0)	3.4 (0.0)[2]	—
Hong Kong	—	—	3.0	1.5 (0.0)	1.3 (0.0)	—
Hungary	31.0[3]	19.2	10.5	6.3 (0.4)	2.5 (0.3)	2.2 (0.4)
Ireland, Northern	3.4	2.1	4.5	3.4 (0.0)	0.7 (0.0)	—
Ireland, Rep. of	3.2	1.1	1.5	1.5 (0.0)	1.0 (0.0)[2]	—
Israel[5]	2.3	4.2	2.6	2.6 (0.9)	1.2 (0.4)[2]	—
Italy	6.1[3]	4.4	3.9	3.8 (0.0)	1.6 (0.0)	—
Jamaica	—	—	—	15.8 (0.0)[3]	—	—
Japan	7.3	4.5	2.9	1.4 (0.5)	0.7 (0.3)	0.4 (0.2)
Mauritius	—	—	38.9	60.3 (0.0)	80.4 (0.0)	55.6 (0.0)[3]
Mexico	—	—	17.0	16.4 (0.1)	4.0 (0.2)[2]	—
Netherlands	4.0	2.6	1.7	1.1 (0.0)	0.3 (0.1)	0.3 (0.0)[3]
New Zealand	14.5[3]	13.0	5.8	1.8 (0.3)	0.6 (0.0)	0.0 (0.0)
Nicaragua	—	—	—	—	11.2 (0.4)	—
Norway	5.2	2.3	1.1	0.3 (0.0)	0.3 (0.0)	0.0 (0.0)
Panama	—	—	—	21.2 (0.0)	—	—
Paraguay	—	—	—	82.3 (0.0)	85.3 (0.7)	—
Peru	—	—	—	22.5 (0.1)	—	—
Philippines	—	—	15.3	—	13.3 (0.2)	—
Poland	—	3.2[2]	2.6	1.4 (0.1)	0.8 (0.1)	—
Portugal	26.7[3]	23.8	11.9	10.6 (0.0)	5.2 (0.1)	—
Puerto Rico	—	—	3.0	2.0 (0.0)	1.5 (0.0)	—
Romania	—	25.2	21.4	66.8 (0.6)	87.2 (0.7)	—
Scotland	5.7	6.3	3.2	1.8 (0.0)	1.0 (0.6)	2.7 (2.2)
Singapore	—	—	10.3	9.1 (0.0)[3]	4.4 (0.0)	2.6 (2.1)[3]
Spain	—	—	2.7	2.1 (0.0)	2.2 (0.0)	—
Sri Lanka	18.5	16.3	11.4	—	—	—
Sweden	3.0	1.2	1.8	0.3 (0.0)	0.2 (0.0)	0.2 (0.1)
Switzerland	9.9	7.2	3.9	3.6 (0.2)	1.0 (0.4)	0.6 (0.2)[2]
Thailand	—	17.0	12.1	12.9 (0.0)	11.1 (0.0)	—
Trinidad & Tobago	—	46.3[3]	53.9[3]	82.4 (0.0)[3]	46.3 (0.0)	—
United States[6]	6.9	7.6[7]	5.5[7]	2.6 (0.1)[7]	0.5 (0.1)[7]	0.3 (0.1)[7]
Uruguay	—	—	—	17.2 (0.0)	14.6 (0.0)	—
Venezuela	27.2	37.1	41.8	33.6 (0.2)	24.0 (0.0)	—
Yugoslavia	—	—	32.6	16.0 (0.2)	5.7 (0.1)	—

Notes: Data obtained from special tabulations of unpublished data from World Health Organization, April 1984. Dash denotes no data or data for one or two years only. A rate of 0.0 denotes no deaths or a rate of less than 0.05 per million. Figures or symbols in parentheses denote the number of deaths attributed to legal abortions; these deaths are also included in totals. This information is not available for 1953–67. Data for 1978–82 have been supplemented by a survey questionnaire to selected countries that obtained data on deaths according to *ICD-8* definitions.

1. Includes deaths attributed to spontaneous, legally induced and illegally induced abortions.
2. Data for four years.
3. Data for three years.
4. Comparable rates for earlier periods: 43.9 in 1933–37, 31.0 in 1938–42, 23.0 in 1943–47 and 11.0 in 1948–52.
5. Jewish population.
6. Data from NCHS. After 1978, *ICD-9* categories comparable to "abortions" in ICD-8. Comparable rates for earlier periods: 85.4 in 1933–37, 46.0 in 1938–42, 24.0 in 1943–47 and 10.4 in 1948–52.
7. Rates estimated for 1958–71 and based on CDC surveillance for 1972–82: 1958–62, 10.1 (0.1); 1963–67, 7.6 (0.1); 1968–72, 3.4 (0.6); 1973–77, 0.9 (0.4); 1978–82, 0.4 (0.2).

abortion involved women who failed to seek legal termination of pregnancy within the prescribed gestational limit and thus were exposed to the double jeopardy of both a late abortion and a nonmedical setting. If this is the case, a relatively small number of illegal abortions could account for the reported deaths.

It is highly probable that for any particular time, some countries not shown in Table 21 had substantially higher abortion-related mortality than is reported in any of the countries included in the table. In Bangladesh, for instance, a careful field survey generated an estimate of 7,800 deaths resulting from complications of induced abortions, corresponding to a rate of 470 per million women of reproductive age — more than three times the rate for Chile in 1958–62, the highest rate in the table (Measham et al., 1981).

While the inadequacies of registration constrain the comparative interpretation of the levels of abortion mortality, changes in rates over time convey more useful information. In Czechoslovakia and Hungary, for instance, where abortion laws were significantly liberalized in the mid-1950s, mortality rates declined 56 percent and 38 percent, respectively, between 1953–57 and 1958–62. Without liberalization of abortion laws, no major country in Europe and North America and few smaller ones experienced a decline of this magnitude during that period.

In England and Wales, where legal abortion became available in 1968, the number of deaths attributed to all types of abortion declined from an annual average of 47 in the period 1963–67, corresponding to a rate of 4.7 per million women of reproductive age, to fewer than nine deaths per year in 1973–77 (0.9 per million). The number of deaths attributed to "other than legal" abortions declined from 44 to a mere five annually (4.4 to 0.5 per million).

Table 22 and Figure 16 display the relevant statistics for the United States. The numbers of deaths shown for 1972–82 are those identified by the surveillance effort of the Centers for Disease Control (CDC); those for earlier years are estimates based on the routine registration of deaths by cause, inflated to approximate the more complete coverage achieved by the CDC. The estimation procedure has been described elsewhere (Tietze, 1979, p. 91).

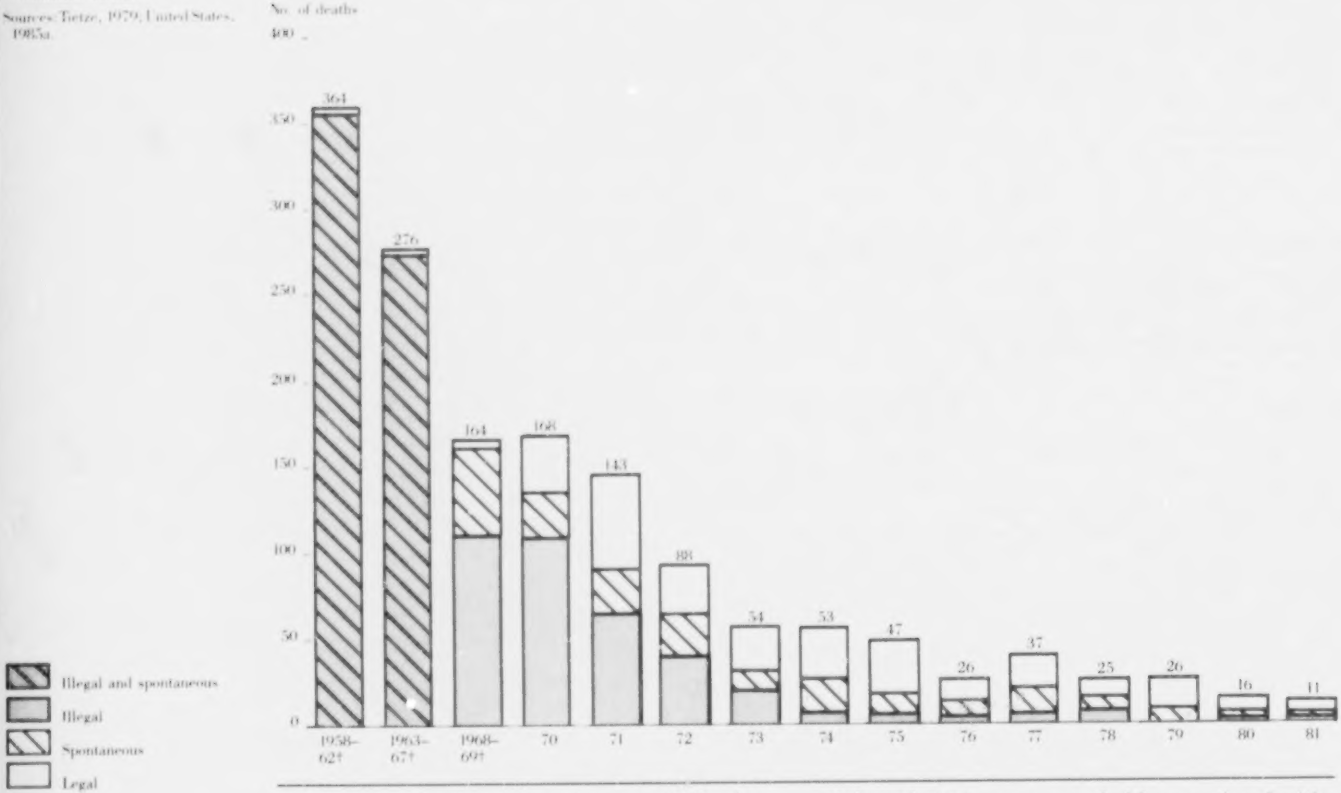
Notwithstanding the inconsistencies of statistical practice and the hazards of estimation, there can be no doubt that the number of deaths associated with abortion has declined dramatically in the United States and that the decline was especially steep in the category of "other than legal" abortions. If we accept for this group 359 deaths annually during 1958–62, 160 during 1968–69 and 14 during 1975–80, we obtain annual rates of decline of 10 percent for the earlier interval and 24 percent for the later interval, coinciding with the gradual liberalization of abortion laws and practices. For *all* abortion deaths, including those associated with legal abortion, the annual rate of decline from 1968–69 to 1975–80 was 20 percent; for deaths attributed to illegal abortion it was 32 percent.

Whereas a change to a less-restrictive abortion policy reduces the number of deaths associated with illegal abortion, a change to a policy that is more restrictive may increase it. In Romania, for example, the enactment of a restrictive abortion law in 1966 was followed by a sevenfold increase in deaths attributed to abortion. The rate per million women aged 15–44 rose from 14.3 in 1965 to 97.5 in 1978 (Figure 17).

Morbidity

Especially in developing countries, complications of spontaneous and illegal abortions can be an important public health problem. A survey of studies in developing countries found that the proportion of hospital admissions for gynecologic services that were attributed to complications of abortion ranged from 14 percent at Lagos (Nigeria) University Teaching Hospital in 1967 to 50 percent in two West Bank (Israel) hospitals, reported in 1970 (Liskin, 1980). As noted above, the level of morbidity is related to the extent to which abortion services are provided by trained medical practitioners. In

Figure 16. Number of deaths associated with abortion, by type of abortion: * United States, 1958–81



*For 1972–80, excludes a total of nine abortion deaths for which the type of abortion is unknown.

†Annualized average.

Sources: Tietze, 1979; United States, 1985a.

some areas, the desire to reduce morbidity has been an impetus to liberalize abortion laws, although legalization in itself does not guarantee access to safe abortion services.

The effect of liberalization of abortion laws on morbidity has been documented for few countries. Statistics for the United States show no clear-cut effect on the rate of hospital admissions for treatment of complications of abortion, according to the Hospital Discharge Survey conducted by the National Center for Health Statistics. The number of such cases declined from 324,000 in 1970 to 260,000 in 1977, but the decline was irregular and the ratio of admissions for abortion complications to the number of live births six months later remained between eight and nine percent in all years but one. However, since the large majority of the admissions were probably associated with spontaneous abortions, a change in the number of admissions following illegal abortions may not have been detectable. It is worth noting that the proportion of women remaining in the hospital for more than one day declined from 70 percent in 1970 to 51 percent in 1977; it appears reasonable to assume that this decline reflects, at least in part, a shrinking number of illegal abortions followed by severe complications (Bracken et al., 1982).

Legal and Illegal Abortion

The only fully predictable result of changes in abortion policy is their effect on the number of legal abortions. As shown in Table 2, liberalization of policy is invariably followed by an increase in the number of legal abortions ranging from quite small,

Table 22. Number of deaths associated with abortion, by type of abortion: United States, 1958–82

Year or average	Type of abortion				
	All types	Legally induced[1]	Other than legal Total	Illegally induced[2]	Spontaneous
1958–62[3,4]	364	5	359	na	na
1963–67	276	4	272	na	na
1968–69	164	4	160	111	49
1970	168	36	132	109	23
1971	143	54	89	65	24
1972[5]	90	24	66	41 (2)	25
1973	57	25	32	22 (3)	10
1974	54	26	28	7 (1)	21
1975	48	29	19	5 (1)	14
1976	27	11	16	3 (1)	13
1977	37	17	20	4	16
1978	25	9	16	7	9
1979	26	18	8	0	8
1980	17	9	8	2 (1)	6
1981	11	7	4	1	3
1982	18	11	7	1	6

Note: na = data not available

1. Excludes 10 deaths during 1973–79 that occurred shortly after legal abortion was attempted and that are attributed to ectopic pregnancy.
2. Numbers in parentheses are deaths classified as unknown by the CDC.
3. Figures for 1958–69 are annual averages.
4. Estimates for 1958–71 are based on deaths attributed to abortion, inflated to comparability with data for later years.
5. For 1972–82 figures represent deaths reported by the CDC (excluding ectopic-related deaths). The number of deaths has been updated and may be more than previously reported (United States, 1985a, 1986b).

as in Sweden in 1975, to spectacular, as in Czechoslovakia in 1958; conversely, adoption of a restrictive policy results in a decline. The extent of the change depends in part on the magnitude of the liberalization, which was small in Sweden in 1975.

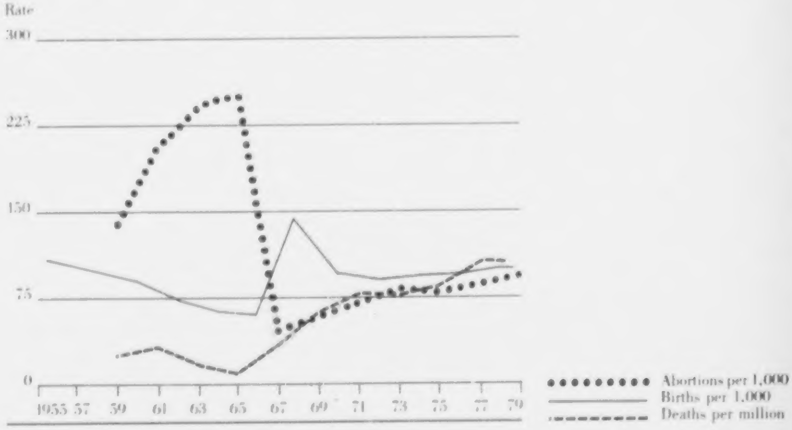
Many countries with relatively liberal abortion laws specify conditions under which abortions are permitted: the circumstances of the woman, period of gestation, residence in the country, parental consent for minors, forced period of "consideration," training of the physician and type of facility. Approval by a committee of physicians may be required. These restrictions appear to have little effect on the overall abortion rate, although they may result in delay, inconvenience, increased travel distance, increased cost and international migration of women seeking abortions (Ketting and van Praag, 1985).

During the first few years after legalization, the greater availability of legal abortions may tend to increase the total number of induced abortions, because some pregnancies are terminated that otherwise would have been carried to term. Because of the decline in illegal abortions, however, the increment in the total number of induced abortions is smaller, absolutely and relatively, than the increment in the number of legal abortions.

Because of the hazards associated with illegal abortions, one would expect that liberalization of abortion laws and practices would tend to reduce the number of such procedures. However, because the numbers of illegal abortions—either before or after the change of policy—are not known, it is extremely difficult to document the effects of liberalization on the incidence of illegal abortion. Each of the indicators of illegal abortion, such as the number of deaths attributed to abortion or the number of admissions to hospitals for aftercare or

Figure 17. Number of known abortions* and live births per 1,000 women aged 15–44, and number of deaths attributed to abortion per million women aged 15–44: Romania, 1955–79

*Women who obtained legal abortions plus women admitted to aftercare or treatment of complications of spontaneous or illegal abortions.



for the treatment of complications, may be modified by a variety of factors, of which abortion policy is only one. The number of deaths attributed to abortion may decline because of advances in the treatment of complications, and the number of women admitted to hospitals may fail to decline because of an increasing preference for hospital care to treat all types of illnesses, including complications of abortion. Moreover, the validity of the indicators may also be affected by the change in abortion policy: more deaths may be correctly attributed to abortion because of controversies surrounding the change, or more women may be willing to seek medical care or admission to hospitals because of changes in public opinion associated with a less-restrictive policy.

Nevertheless, it seems clear that moderate extension of the medical indications for legal abortion involves a comparatively small proportion of pregnancies and, therefore, has little effect on the number of illegal abortions, while legalizing abortion at the request of the pregnant women or for broadly interpreted social indications substantially reduces the frequency of illegal and self-induced abortions, as evidenced by declining numbers of deaths.

In the United States, from about 1960 to the late 1970s the decline in the reported and estimated numbers of deaths attributed to "other than legal" abortions appears to be a reasonable indicator of the decline in illegal abortions. On the one hand, improved treatment practices could have reduced abortion-related mortality; maternal mortality, excluding deaths attributed to abortion, declined from 30.2 deaths per 100,000 live births in the period 1958–62 to 10.2 in 1975–80, or six percent annually, on average. On the other hand, a substantial proportion of illegal abortions in the 1960s were performed by physicians, including some highly experienced practitioners, while in the late 1970s, most illegal abortions were self-induced or performed by medically unqualified practitioners. It is entirely possible that the death-to-case ratio following illegal abortion in the United States is now higher, not lower, than it was 15–20 years ago.

Part of the decline in the number of illegal abortions in the United States was undoubtedly due to more widespread use of more effective contraceptives, notably the pill and the IUD, and increasing acceptance of surgical sterilization. Nevertheless, it is difficult not to link the acceleration of the trend after 1968–69 to the legalization of abortion.

Fertility

Adoption of liberal abortion policies has been followed in a number of countries by declines in the birthrate; in some countries, such as the USSR in 1936 and, more recently, Bulgaria, Czechoslovakia, Hungary and Romania, the declines were perceived as contrary to the national interest and led to more restrictive abortion legislation. It would be simplistic, however, to ascribe changes in birthrates entirely or even predominantly to changes in abortion policy. Levels and trends of fertility are determined by broad social forces, including antinatalist and pronatalist government policies, the response to which may be facilitated or impeded by a greater or lesser availability of abortion. Birthrates would probably have declined in the Socialist countries of Eastern and Central Europe in the late 1950s and 1960s and in the United States in the early 1970s even without any changes in abortion policy. In most industrialized countries, fertility declines began long before the liberalization of abortion and would undoubtedly have continued by means of more widespread or more careful practice of contraception and by more frequent recourse to illegal abortion. It appears likely, however, that the decline in the birthrates would have been less marked if abortion laws had not been liberalized. Conversely, pronatalist measures, implemented concurrently with restrictions on the access to abortion, may have contributed materially to increases in birthrates in Czechoslovakia and Hungary.

The impact of a drastic change to restrictive legislation is more visible than the effect of liberalization, but not necessarily long-lasting. In

Romania, implementation of a restrictive policy in late 1966 was followed by a sharp increase in the general fertility rate from 62 per 1,000 women aged 15–44 to almost 140 during the 12 months from July 1967 through June 1968 (Berelson, 1979; David and Wright, 1971; Teitelbaum, 1972). By the mid-1970s, the fertility rate had dropped to about 90 per 1,000, as the Romanian people discovered, or rediscovered, alternate means of fertility regulation, including folk methods of contraception and illegal abortion (Figure 17). In Hungary, where elective abortion became unavailable for large categories of women on January 1, 1974, the general fertility rate increased from 68 births per 1,000 women of reproductive age in 1973 to 86 during the 12 months from August 1974 through July 1975. By 1981, it had again declined, to 64 per 1,000. One effect of the restrictive abortion policy in these countries may have been to cause some women to have their desired number of children at a younger age without increasing their ultimate completed family size.

Even in the countries with the highest abortion rates, abortion is only one of several factors that reduce fertility below its theoretical "natural" level of about 15 lifetime births per woman. According to a mathematical model designed to estimate the effects on fertility of four factors (years spent in a sexual union, contraceptive practice, postpartum infecundability and incidence of abortion), legal abortion is usually less important than other factors in limiting fertility. Even in the Socialist European countries with high abortion rates, abortion has had less influence on fertility than has contraception. (The only exception was Romania during the period 1958–66.) Abortion has also usually been less important than the number of years a woman was married (Frejka, 1985).

Effects on Children

If legal abortion reduces unwanted childbearing, it may have a positive effect on the collective well-being of a nation's children. Such an effect could occur because many women who choose abortion are, by virtue of their age, health or social circumstances, at risk of having unhealthy children. In addition, children who are unwanted are likely to be raised in a less-than-optimal environment.

Research to measure the effect of legal abortion on race-specific neonatal mortality rates has been conducted in the United States, using counties as the unit of analysis. The study found that for both blacks and whites, the availability of abortion services was significantly associated with reduced neonatal mortality rates (Corman and Grossman, 1985).

There have been several studies of children born as a consequence of unwanted pregnancy. Findings from a longitudinal study in Prague, Czechoslovakia, suggest that such a child will suffer disadvantages that continue into adulthood. The researchers followed the development of 220 children born to women twice denied an abortion. At age nine, these children had a higher incidence of illness and hospitalization than a group of matched controls. They performed more poorly in school and showed less integration into their peer group. At ages 14–16, fewer study children than controls were in secondary school and a greater number had been referred for psychiatric counseling. Interviews with the study children at ages 21–23 revealed statistically significant differences in levels of psychosocial development. The study children were much less likely to be happy with their lives and were more likely to have initiated sexual activity before age 15 (David, 1986).

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